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Slaughter in Jerusalem

China's secretive central bank

The answer to antibiotic resistance?

In praise of short-termism

America's heroin relapse

Russia's wounded economy

And the dangers for the rest of the world

1948 Invention of the first modern photofinish camera
1969 First watch on the moon
1975 Apollo-Soyuz rendezvous
1967 Invention of touch pads
2011 Partnership with Orbis
Seamaster
Launched 1948
Omega on Concorde SST
1936 World precision record
ANTI-MAGNETIC TECHNOLOGY 2013
2008 Silicon balance spring introduced
1995 GoldenEye
007
Constellation
Launched 1952
1894 Birth of the Omega
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OMEGA
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1848 The Beginning
Speedmaster
Launched 1957
1999 First
Co-Axial movement
Los Angeles 1932
OMEGA
MASTER CO-AXIAL

Contents

On the cover
Russia's wounded economy: leader, page 9. For more than a decade oil and consumer spending have propped it up. Not any more, page 21. Russia overestimates the value of its reserves, pages 22. Some of Russia is business-friendly, page 24. Using the SWIFT financial-transfer mechanism against rogue states, page 53. Russia will test Europe's new foreign-policy supremo: Charlemagne, page 49. A new book on the networks that control Russia, page 77

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Jerusalem The Israeli-Palestinian conflict is drifting dangerously towards religious war: leader, page 10. A deadly attack on Jews at prayer raises the stakes in an already turbulent city, page 41

Japan's snap election
Shinzo Abe has called a poll to consolidate power; voters should give him one more chance: leader, page 12. His big fight will be over economic reform, page 35

America's heroin relapse
An old sickness has returned to haunt a new generation, page 25

Contents continues overleaf

China's central bank It should cut interest rates and explain clearly why it is doing so: leader, page 14. It is wary of easing, but that is what the economy needs, page 65. Powerful central banks are subject to their own biases and failings: Buttonwood, page 66

Decline of state companies The performance of government-controlled companies has been shockingly bad, page 57. The 400-odd firms Vietnam wants to privatise are mostly unappealing, page 58

Short-termism Let's not get carried away by the tide of criticism of it: Schumpeter, page 64

Antibiotics and antibodies A new way to fight bacterial infections that could be the answer to antibiotic resistance, page 75

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Politics

Five people were killed when two Palestinians attacked men at prayer in a synagogue in **Jerusalem** with knives and a gun. Both assailants were subsequently killed in a shoot-out with the police. The assault, at a time of heightened tension over demands by some Israelis for the right to pray at Muslim holy sites in the city, has raised concerns that the conflict between Israel and the Palestinians is taking on a religious tint.

The scale of **Ebola's** economic impact was made clearer after a survey for the World Bank found that almost half of Liberians who were employed before the outbreak are now out of work. The bank reckons, however, that the disease is now likely to trim economic output in the affected countries by about $3 billion, which is a tenth of its previous worst-case estimate.

France bolstered its ability to strike at **Islamic State** by basing six jets in Jordan (it already has nine fighter planes in the United Arab Emirates). This came after the revelation that two Frenchmen were among the militants in a video depicting the beheadings of 18 Syrians. Also murdered by IS this week was Peter Kassig, an American aid worker.

Not a good move

Guerrillas belonging to the FARC, which has waged a 50-year war against the Colombian state, kidnapped a general and two companions in the western part of the country. **Colombia's** president, Juan Manuel Santos, suspended peace negotiations, which began two years ago, and said they would not resume until the captives were released. The interruption may be brief; mediators said an agreement to free the captives had been reached.

Police investigating allegations of corruption at Petrobras, **Brazil's** state-owned oil company, arrested 18 people, including a former director at the firm and executives from several big construction and engineering companies. They had allegedly participated in a scheme to inflate the cost of contracts and funnel the money to political parties, including the Workers' Party of President Dilma Rousseff. Authorities in the United States are also investigating, since some securities of Petrobras are traded in New York.

María José Alvarado, who was to represent **Honduras** in the Miss World beauty pageant in London in December, was murdered along with her sister. Honduras's murder rate in 2012 of 90.4 homicides per 100,000 people was the world's highest, according to the UN.

A referendum on Abenomics

Japan's prime minister, Shinzo Abe, called a snap election for December 14th after figures showed that the economy shrank by 1.6% on an annualised basis in the third quarter, after a contraction of 7.3% in the second. Most economists had thought GDP would grow in the latest quarter. An increase in the consumption tax in April has been widely blamed for the country's slide into recession, prompting Mr Abe to announce the postponement until 2017 of plans to raise the tax again.

Police in **Hong Kong** began removing barricades erected by protesters who are angered by China's plan to restrict democratic reform in the territory and have occupied some major roads in the city since late September. The courts ordered the barricades to be taken down after complaints about the impact of the protests on local businesses. A group of students who tried to travel to Beijing to raise their grievances were barred from boarding their flight.

Mahinda Rajapaksa, who has ruled **Sri Lanka** since November 2005, called a presidential election to let him seek an unprecedented third term, after the country's Supreme Court cleared the way for him to stand. The president could have waited until 2016, but an early poll lets him take advantage of a buoyant economy, weak opposition and ongoing satisfaction among fellow Sinhalese that he ended a long civil war, by crushing Tamil separatists, five years ago.

Unwelcome guest

Russia's president, Vladimir Putin, left the G20 summit in Brisbane early after receiving a barrage of criticism from Western leaders, including Germany's Angela Merkel, Britain's David Cameron and Canada's Stephen Harper, who bluntly told Mr Putin to "get out of Ukraine".

A few days later **Germany's** foreign minister, Frank-Walter Steinmeier, visited Moscow to meet the Russian foreign minister, Sergei Lavrov, as well as Mr Putin. "There is no reason for optimism in the current situation," Mr Steinmeier said, alluding to continuing Russian destabilisation of eastern **Ukraine**. The EU extended its list of named Ukrainian separatists subject to sanctions.

The European Parliament announced that it would debate a motion of no-confidence in the new president of the **European Commission**, Jean-Claude Juncker. Mr Juncker, a former long-serving prime minister of Luxembourg, has been under fire over the country's many tax-avoidance schemes. European governments want to crack down on such practices.

Portugal's interior minister, Miguel Macedo, resigned over a scandal involving official corruption in the granting of "golden visas" to wealthy non-Europeans who invest a certain amount of money in property in the country.

In a surprise result, **Romanians** elected Klaus Iohannis, an ethnic German who is mayor of Sibiu, as their next president. Mr Iohannis handily defeated the opinion pollsters' favourite, Victor Ponta, but Mr Ponta plans to remain Romania's prime minister until a general election in 2016.

Who likes to be in America?

Barack Obama prepared to outline the details of his long-promised executive order to rewrite America's **immigration** rules. Republicans, flushed with victory in the recent mid-term elections, expressed fury even before the announcement was made, saying it would hinder bipartisan co-operation on other topics when they take control of Congress in January.

The number of **foreign students** at American colleges rose by 8% in the 2013-14 academic year, according to a report sponsored by the State Department. China was the top country of origin at 31%, followed by India at 11.6% and South Korea at 7.7%. The number of students from Saudi Arabia grew by a fifth. New York University hosted more international students than any other college: 11,000, a rise of 19% from the previous year.

Business

Uber became mired in a public-relations mess after one of its executives suggested that the firm should employ private investigators to dig up dirt on journalists who criticise it. The remark was made by Emil Michael, a senior vice-president, who said it was "born out of frustration" with media sniping about the app-based taxi service. But even among Silicon Valley's thrusting entrepreneurs Uber has a reputation for controversial business tactics, such as promoting rides with "incredibly hot chicks" at the wheel.

Left to its own devices

Nokia surprised many tech observers by unveiling its first Android-powered tablet, the N1, marking its return to consumer electronics. The Finnish company left that market when it sold its wireless-devices business to Microsoft. The N1 is to be made through a licensing arrangement with Foxconn, which assembles the iPad for Apple.

Britain's legal challenge to the European Union's cap on **bankers' bonuses** suffered an almost certainly fatal blow when the advocate-general to the European Court of Justice found that the rule that limits bonuses to 100% of salary (or 200% with shareholders' approval) was valid.

The **Shanghai-Hong Kong Stock Connect** opened for business with much fanfare. The scheme allows foreign investors in Hong Kong to buy A-shares on the Shanghai stock exchange without a licence and Chinese investors to tap the Hong Kong market, subject to limits. Most of the interest lies in accessing Shanghai's equity market, but after a boisterous start trading was subdued on the second day.

The head of Russia's central bank defended her decision to let the **rouble** float, saying it had reduced speculative attacks on the currency. Elvira Nabiullina also reiterated that she would intervene to prop up the rouble again "if events develop negatively".

The luck of the Irish

Bill Ackman, an activist investor, and Valeant Pharmaceuticals saw their joint bid for **Allergan**, the maker of Botox, defeated by a $66 billion rival offer from **Actavis**. Mr Ackman's lengthy quest for Allergan had become increasingly hostile. Actavis will benefit from a lower tax bill, as it has moved its tax base to Ireland through an inversion takeover.

Baker Hughes agreed to a friendly $38 billion takeover from **Halliburton**, its bigger rival in the oilfield-services industry. Both companies have their roots in the oil boom of the early 20th century (part of the Baker Hughes lineage can be traced back to the family of Howard Hughes) and both have a significant presence in the fracking boom. But their union will be scrutinised by antitrust regulators.

A report by the Senate committee on investigations sharply criticised the "massive involvement" of Goldman Sachs, JPMorgan Chase and Morgan Stanley with **physical-commodity markets**. In one focus, Goldman's acquisition of the largest certified warehouse to store aluminium in America was described as a conflict of interest, as it was trading heavily in the metal as well as managing its availability through the storehouse. The bank is selling the business.

Australia signed a free-trade deal with **China**, its biggest trading partner. The agreement cuts tariffs for most Australian agricultural imports, including wine but excluding rice and sugar, into China and eases the rules for Chinese investment in Australia. The deal is part of the Australian government's effort to make the economy less reliant on commodities.

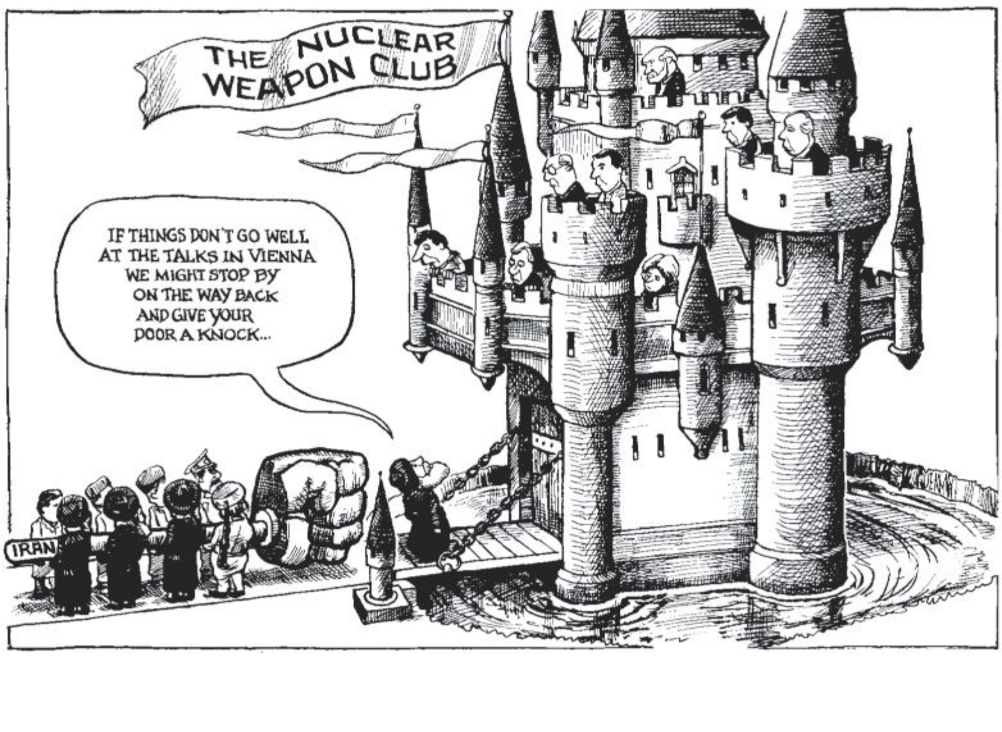
Britain's House of Commons voted to end the 400-year-old requirement that **pub landlords** must buy their beer from the breweries that own their premises, allowing them instead to purchase their beer more cheaply on the market. Those who want to end the "beer tie" say it will reduce pub prices, but big brewers argue that pubs will have to close. Share prices swooned among the firms that own most of the tenanted pubs.

A court in Mumbai ruled in favour of Royal Dutch Shell in its $3 billion **tax dispute** with the Indian government. Shell was accused of avoiding tax when transferring shares from its Indian subsidiary. The prime minister, Narendra Modi, has promised to bring order to India's capricious tax policies on foreign firms.

People get ready

Privateer, a private-equity firm based in Seattle with roots in the cannabis industry, announced a deal with the **Bob Marley** estate to sell marijuana branded under the late singer's name. Cannabis is now legal in several American states and Uruguay. As well as selling the weed, the venture will launch products such as lip balm. Privateer's boss submitted that "Bob Marley started to push for legalisation more than 50 years ago. We're going to help him finish it."

Other economic data and news can be found on pages 84-85



Russia's wounded economy

It is closer to crisis than the West or Vladimir Putin realise

VLADIMIR PUTIN is not short of problems, many of his own creation. There is the carnage in eastern Ukraine, where he is continuing to stir things up. There are his fraught relations with the West, with even Germany turning against him now. There is an Islamist insurgency on his borders and at home there is grumbling among the growing numbers who doubt the wisdom of his Ukraine policy. But one problem could yet eclipse all these: Russia's wounded economy could fall into a crisis (see pages 21-24).

Some of Russia's ailments are well known. Its oil-fired economy surged upward on rising energy prices; now that oil has tumbled, from an average of almost $110 a barrel in the first half of the year to below $80, Russia is hurting. More than two-thirds of exports come from energy. The rouble has fallen by 23% in three months. Western sanctions have also caused pain, as bankers have applied the restrictions not just to Mr Putin's cronies, but to a much longer tally of Russian businesses. More generally, years of kleptocracy have had a corrosive effect on the place. Much of the country's wealth has been divided among Mr Putin's friends.

Everybody expects continued stagnation, but the conventional wisdom is that Mr Putin is strong enough to withstand this. The falling rouble has made some export industries like farming more competitive. These exports combined with Mr Putin's import-blocking counter-sanctions mean Russia still has a small trade surplus. It has a stash of foreign-exchange reserves, some $370 billion according to the central bank's figures. Add in the resilience of the Russian people, who are also inclined to blame deprivation on foreigners, and the view from Moscow is that Mr Putin has time to manoeuvre. People talk loosely about two years or so.

In fact, a crisis could happen a lot sooner. Russia's defences are weaker than they first appear and they could be tested by any one of a succession of possibilities—another dip in the oil price, a bungled debt rescheduling by Russian firms, further Western sanctions. When economies are on an unsustainable course, international finance often acts as a fast-forward button, pushing countries over the edge more quickly than politicians or investors expect.

Putin a good man down

The immediate worry is the oil price. Mr Putin is confident it will recover. But supply seems set to increase, with OPEC keen to defend its market share. American government agencies predict oil prices could average $83 a barrel in 2015, well below the $90 level Russia needs to avoid recession (and to keep its budget in balance). If global demand weakens—Japan has slipped into recession since the latest round of forecasts—the oil price could fall further. That would immediately prompt investors to reassess Russia's prospects.

Then there are the debt repayments. Russia's firms have over $500 billion in external debt outstanding, with $130 billion of it payable before the end of 2015, at a time when few Western banks want to increase their exposure to Russia. Even firms that earn dollar revenues may struggle to pay their debts. Rosneft, an oil giant, recently asked the Kremlin to lend it $44 billion. Mr Putin has so far resisted, but he cannot let a company that is 70% state-owned and employs 160,000 people fail. There is a lengthening queue of troubled Russian firms. Non-performing loans were rising even before interest rates were raised to 9.5% to defend the rouble. Meanwhile Russian banks are reliant on the central bank to replace deposits that their customers are understandably spiriting into dollars.

Directly or indirectly, many of these bills will end up with the Kremlin, which is why its reserves will be vital. They are evaporating: down $100 billion in the past year, following failed attempts to defend the rouble. And the book-keeping is dodgy. Of the reported $370 billion reserve pile, more than $170 billion sits in the country's two wealth funds. Some of their assets are iffy, including various stakes in Russia's state-owned banks and debt issued by Ukraine that Mr Putin's own aggression is fast rendering worthless. One of the funds is earmarked for pensions. In reality, Russia's government has perhaps $270 billion of hard cash that is accessible and usable without massive cuts elsewhere—less than its external obligations due over the next two years (see page 22).

All this spells trouble for Russia, but Mr Putin's marauding foreign policy could accelerate things. This after all is a man who has invaded other countries and lied about it. A deeper foray into Ukraine would lead to stronger sanctions by Western countries. Some of them, such as barring Russia's banks from the SWIFT international payments system (see page 53), could halt Russian trade altogether. A partial block on oil exports would fell the economy, as it did Iran's. And the more trouble he faces, the more likely Mr Putin is to play the nationalist card—and that means more foreign forays, and yet more sanctions.

From Russia to Rio, without much love

Russia's biggest recent economic crisis, in 1998, led to a government default. This time a string of bank failures, corporate defaults and a deep recession look likelier. Even so the pain from these could spread abroad quickly, both to countries that rely on Russian trade (exports to Russia account for fully 5% of GDP in the Baltics and Belarus) and through financial ripple effects. Banks in both Austria and Sweden are exposed. And if firms in one badly run commodity-driven country start to default on their dollar debts, then investors will worry about others—such as Brazil.

If Russia's economy looks likely to collapse, there will be inevitable calls in the West for sanctions to be cut back. This week Mr Putin pointed out that 300,000 German jobs depend on trade with his country. But Angela Merkel rightly stood firm. Actions, Mr Putin must finally learn, have consequences. Invade another country, and the world will act against you. And the same goes for the economy, too. Had Mr Putin spent more of his time strengthening Russia's economy than enriching his friends, he would not find himself so vulnerable now. ■

Murders in Jerusalem

Keep God out of it

The Israeli-Palestinian conflict is drifting dangerously towards religious war

THE sight of Jews lying dead in a Jerusalem synagogue, their prayer-shawls and holy books drenched in pools of blood, might be drawn from the age of pogroms in Europe. Sadly, it is an appallingly modern episode, the latest in the interminable tragedy of Jew and Arab in the promised land. The slaughter at the Kehilat Bnei Torah synagogue—four worshippers and a policeman were killed by two Palestinian men wielding knives and guns, who were in turn shot dead—is hardly the deadliest event in the annals of Israeli-Palestinian violence. And it pales in comparison to the mass slaughter taking place across the border in Syria and in other parts of the Middle East.

Yet the synagogue murders matter, for several reasons. First, to judge from the scenes of some Gazans handing out celebratory sweets and cartoons on social media glorifying the bloodletting, the lust for butchery that impels jihadists elsewhere is gripping Palestinians. Second, Palestinian Jerusalemites who largely stood aside in past battles have taken up the fight. Third, the deaths in a house of prayer come at a time when Jerusalem is already astir over the status of holy sites. The conflict is thus being pushed further from a dispute over rival nationalism and closer to one about religions and Jerusalem. That makes everything even more intractable.

It is still just about possible to imagine a peace settlement to resolve the nationalist strife through some kind of partition of the land between the Mediterranean Sea and the Jordan river. But the more religion infuses the dispute, the more impossible it is to find a deal. That is why the status of Jerusalem has always been one of the hardest issues to crack. Jews, after all, pray for the restoration of the temple every day; for Palestinians, the al-Aqsa mosque, built atop the ruins of the Jewish temple, is the third-holiest site in Islam.

Religion should make Jerusalem a place of sublime spirituality. All too often, though, it is exploited for political ends. Religious conflict would spread trouble beyond the holy land and would bring a world of horrors. It was glimpsed in 1994, when a Jew killed dozens of Palestinians at prayer in Hebron; it was glimpsed again this week in Jerusalem. Summoning God sanctifies violence and intransigence; an equitable peace becomes impossible when compromise is blasphemy.

A dry crust and peace

For Binyamin Netanyahu, Israel's prime minister, this week's murders were the result of incitement by the Palestinian leader, Mahmoud Abbas, who urged Palestinians to defend al-Aqsa. For Mr Abbas the real problem is provocation by Jews seeking the right to pray at the al-Aqsa compound (some want to rebuild the temple there), in a growing campaign abetted by members of Mr Netanyahu's government and his Likud party.

At such a moment it seems pointless to advocate a return to peace talks. Yet the need for a settlement, including a means for Israelis and Palestinians to share Jerusalem, is more apparent than ever. For now both leaders should at least avoid demonising each other because that only makes it harder to talk tomorrow. They must also speak to their own people. Mr Abbas must tell Palestinians that, no matter the injustices under occupation, targeting innocent civilians is always unacceptable. Mr Netanyahu must yet again make clear that the religious status quo on the Temple Mount will not change; that Jewish attacks will be punished just as severely as Arab ones; and that there is a dignified place for Palestinians in a shared Jerusalem.

At times of sorrow and anger the wisdom of leaders is tested. They must abjure inflammatory language, resist overreaction and collective punishments—and stand up to radicals in their midst. ■

Nuclear talks

Iran's choice

For a deal to be done both sides need to compromise, but Iran must give more ground

AFTER eight years of double crossing and frustration a deadline looms. November 24th is the cut-off for a deal to ensure that Iran's nuclear programme is peaceful. Much work remains. Is agreement possible and what would it encompass?

Iran is looking for three things from a deal. First, it wants nuclear-related sanctions to be eased. Second, because it would be a national humiliation to dismantle its programme entirely, it insists on preserving the enrichment capacity to meet what it calls its "practical needs". Third, it wants the prospect of being treated as a "normal" signatory of the Nuclear Non-Proliferation Treaty, with the right to a decent civil nuclear programme.

For the rest of the world the goal is simply to increase the time it would take for Iran to produce enough fissile material to fuel a bomb. Today that could be as little as two months; it should be at least a year, so that any attempt at "breakout" or "sneakout" (in, say, a secret uranium-enrichment plant) would be caught in good time. Only then would there be an opportunity to deter Iran through more sanctions or the credible threat of military action. A deal also needs to have a long enough time-horizon to establish that Iran no longer wishes to preserve the option of building nuclear weapons.

The talks have made progress. There is now a plan to con- ▸▸

vert the Arak heavy-water reactor so that it produces less plutonium. Iran is also ready to turn the enrichment facility at Fordow, almost impregnable beneath a mountain near Qom, into an R&D site. The sticking point is Iran's uranium-enrichment capacity, which, with the size of its stockpile of low-enriched uranium (LEU), determines how fast it can make the high-enriched stuff that goes into bombs.

The Russian option

America and its partners say that Iran's needs for the Tehran Research Reactor and Arak, if it becomes a light-water reactor, can be met with fewer than 2,000 first-generation centrifuges—far fewer than the 10,200 now running and the 9,000 installed but not yet spinning. Fuel for the Bushehr nuclear power station can come from Russia. America wants constraints on Iran's centrifuges to last for up to 20 years. Iran counters that it will not dismantle any of its centrifuges and that it needs more—to fuel Bushehr when a contract with Russia ends in 2021. That would, it says, take at least a tenfold increase in its capacity plus some new technology.

But there is room for compromise on the numbers. If Iran were to agree to send its LEU routinely to Russia to be made into fuel rods, which cannot easily be further enriched into bomb-fuel, its negotiating partners would agree to its keeping about half its operating centrifuges. The rest would be mothballed at a secure site monitored by nuclear inspectors. Iran's research into newer, more efficient centrifuges, which could help it build a small secret enrichment plant (a big worry for Western spooks), would be rigorously monitored.

The world could give ground over the length of a deal. After, say, ten years, some constraints could relax in phases—though only if the International Atomic Energy Agency (IAEA) could certify that Iran was honouring the agreement. To that end, Iran would have to submit to a uniquely intrusive inspection regime. Lastly and crucially, Iran must demonstrate its faith in the deal by admitting its past work on weaponisation. The IAEA could treat such declarations in confidence—saying only that it had received a full accounting.

Some unilateral sanctions could be eased quite quickly because both the European Union and America could reimpose them were Iran to cheat. The UN sanctions should be the last to go because they would be the hardest to restore.

Such a compromise would fall well short of the maximalist demands of Iranian hardliners, including the supreme leader, Ayatollah Ali Khamenei, who continue to believe that Iran should have a nuclear-weapons option, if not the bomb itself. It would also provoke outrage among sceptical members of America's Congress and Israel's prime minister, Binyamin Netanyahu, who insist that Iran's record of cheating means it should have no enrichment programme at all. But that is the nature of compromises; neither side will get all it seeks.

The West would probably accept the deal outlined above. For all its protests, Israel would be much safer from attack than it is now; so indeed would the whole region. Iran has a choice. It could keep an option on nuclear weapons, but suffer poverty; or it can rejoin the global economy and still have the prospect of the peaceful nuclear programme it says it has wanted all along. Which is it to be? ■

Japanese elections

Same race, same horse

Shinzo Abe has called a snap poll to consolidate power; voters should give him one more chance

WHEN Shinzo Abe made the case, in late 2012, that he was the man to save the economy and revive Japan, voters handed him a landslide general-election win. This week, just two years on, the prime minister dissolved the Diet's lower house and declared a snap election for December 14th. "We cannot", he thundered, "let this chance go." Not surprisingly, many Japanese think they are being asked to buy the same horse twice.

The political calculations are clear. Mr Abe's popularity has tumbled from the gravity-defying levels he enjoyed until this autumn. Better to seek another four-year term now before fights next year over defence policy and restarting Japan's closed nuclear plants—and before mutterings against Mr Abe grow inside his own Liberal Democratic Party (LDP). The opposition is in disarray, unable even to field enough candidates for the vote. Observers expect the ruling coalition to lose 30-40 seats but still keep a handsome majority (see page 35). Some of Mr Abe's people hope that the LDP might actually add seats and govern without the help of Komeito, its junior partner.

Yet there is no getting around it. Mr Abe is running on a promise to revive the economy because his attempts to do so the first time round have largely failed. Countless times he claimed to be putting an end to years of deflation and reviving the economy. *The Economist* was among those who gave him the benefit of the doubt by endorsing "Abenomics", a slickly presented campaign promoting radical monetary easing, more government spending and far-reaching structural reforms. Soon after he came to office, Mr Abe famously declared that "Japan is back". As awful GDP figures released for the third quarter on November 17th underlined, he was half-right: Japan is indeed back—in recession. And many Japanese households feel squeezed because wages are not keeping pace with prices.

Was Abenomics, then, all voodoo? Not entirely. Without the Bank of Japan's massive quantitative easing, who knows how far the economy might have sunk? The first round of easing in 2013 did nudge inflation expectations upwards. Its second round in late October was also right, because the economy had stopped in its tracks, while core inflation, which had been moving up to the central bank's target of 2%, had slipped.

As for fiscal policy, the problem was too little loosening. With hindsight, the government made a mistake in going ahead in April with a long-planned rise in the consumption (value-added) tax, from 5% to 8%. It knocked the stuffing out of the economy. Mr Abe was right to declare this week that he will postpone the next planned rise, from October 2015 until April 2017 (though he was disingenuous in claiming that he needed a fresh electoral mandate to do so). In a stagnant economy put-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ting fiscal consolidation before recovery can prove disastrous.

Monetary and fiscal policy will remain loose after Mr Abe is re-elected. Yet Abenomics may now pull less of a punch. Perhaps its chief intention, in the words of one adviser, was as a "psychology-management exercise" to boost the stockmarket and shake Japanese households and businesses out of their deflationary gloom. That effect cannot be repeated again and again. The Bank of Japan can act yet more boldly, but it will become harder to shock and awe.

That leaves structural reform, the third dimension to the plan to raise Japan's long-run rate of growth. Here, spin raced much further ahead of substance. The government announced fine-sounding proposals to improve a rigid employment system, open markets and even allow in more foreigners. A few of them have borne fruit: corporate governance is being overhauled to allow in more independent directors, more women are at work and agriculture is freer. But overall there has been no sense of urgency or priorities.

Mr Abe's advisers say that a second term will be different: he will unblock trade talks with America over farm protection; he will reform labour; he will change the tax system to spur job creation and stimulate spending. He may also get a little help from the economy. Year-end bonuses at big companies are likely to be generous, thanks to profits from a weak yen. And inventories and labour markets are surprisingly tight. In Nagoya, for instance, wages for bar workers have doubled in the past year as construction firms have snapped up casual labour.

Time to upset people

In the long run, however, Japan can grow faster only if it has a leader who is prepared to make changes that upset old ways of doing things. Mr Abe has radical ideas, but he is too averse to spending his political capital to implement them. Great leaders have to take risks. ■

China's monetary policy

The People's Blank of China

China's central bank should cut interest rates and explain clearly why it is doing so

ALAN GREENSPAN was a master of abstruse language as chairman of the Federal Reserve. "If you understood what I said, I must have misspoken," he once joked. At least Mr Greenspan spoke. In China the central bank has made a habit of silence. Policy announcements are rare and, if they are offered, come at unpredictable hours, often over the weekend. Sudden shifts in the value of the yuan always bear the central bank's fingerprints, but are infrequently explained. The motto for the People's Bank of China (PBOC) should be: "If you know what we did, we must have done it wrong".

This taciturn tendency has long bemused people trying to understand the direction of China's monetary policy (see page 65). But recently it has reached new and dangerous extremes. Since June the central bank is widely reported to have injected as much as 1.8 trillion yuan ($294 billion) to prop up the slowing economy through a mix of targeted liquidity facilities. That is a lot of money, equivalent to more than three months of quantitative easing at the peak of the Fed's bond-buying programme. But only in early November, half a year after rumours started, did the central bank provide some confirmation of its actions, and even then it was only partial.

Worse, the PBOC deliberately chooses convoluted means to loosen monetary conditions—in essence providing cheaper medium-term money to some banks, not others. And it is using this as a first line of defence. Elsewhere, central banks cut interest rates close to zero before turning to unconventional policies. In China the benchmark one-year lending rates sit at 6%. It would be better if China loosened monetary policy the traditional way—by cutting interest rates.

The central bank is, to be fair, in a tough spot. It has been the boldest of China's regulators in trying to curb soaring debts in the shadow banking system. It worries that a rate cut would be seen as a U-turn, signalling a retreat from its quest to rein in borrowing excesses. Hence its preference for covert easing.

This is the wrong choice, for two reasons. First, the central bank's meddlesome approach to providing liquidity risks undermining its own reformist agenda. Instead of letting the market allocate resources, the central bank is choosing which banks should be the beneficiaries of easing, and how they should direct their lending. It has, for instance, specified that a big chunk of its cash injections must go to the construction of public housing. That may be a laudable goal for the government, but not the central bank.

Second, the failure to explain what it is doing diminishes the central bank's effectiveness. The point of easing is not just to pump money into the economy, but also to instil confidence in companies and consumers. By spelling out what they are doing and why, central bankers help steer markets and reduce uncertainty. The recent slide in China's growth shows that the PBOC is struggling to hit its mark. Short-term money rates have declined, but real bank-lending rates have risen.

The case for cutting and talking

These shortcomings hurt China's economy. They are also a global concern. Even as it slows, China still generates over a quarter of the world's growth. Its financial system, sealed off behind capital controls for decades, is increasingly open. As of this week, anyone with a Hong Kong brokerage account can invest on the Shanghai stock exchange. And the yuan is being used more widely; central banks from France to Nigeria now hold the Chinese currency in their foreign-exchange reserves.

As a central bank of global consequence, the PBOC needs to adopt the best practices of its peers. That means loosening monetary conditions transparently and harnessing the power of communication. It should combine a cut in interest rates with a clear explanation of why it is cutting (to ward off the threat of deflation) and a promise to greet any rush to greater leverage with much stricter credit rules. Other big central banks have turned such "forward guidance" into a powerful policy tool. The PBOC should too. ■

Crowded Britain

SIR – The finding in an academic study by Christian Dustmann and Tommaso Frattini that immigrants to Britain from elsewhere in Europe make a net fiscal contribution does not justify high levels of immigration ("What have immigrants ever done for us?", November 8th). Their study does not cover the significant non-fiscal costs of the resulting population growth.

Each added resident brings forward the need for increased capital spending on services. Britain's high-speed train projects are always justified by already overcrowded network capacity. Because of budgetary constraints hospital beds and school places are in short supply and becoming ever harder to find. The supply of some assets, such as beaches and beauty spots, cannot be increased, so they become crowded. More development to house more people brings large financial costs through the environmental damage that the loss of countryside will bring. None of this is covered in the report. Less net immigration would have meant these problems would now be smaller; net emigration could have helped cure them at low cost.

The study by Messrs Dustmann and Frattini is about the quality of immigrants. But it is the quantity of immigrants that is the bigger problem. We already have too much of this good thing.

GEORGE ELLINGHAM
London

Tackling Ebola

SIR – The rejection by some of effective experimental treatments for Ebola lacks foresight ("Unchained malady", November 15th). The sacrifice of a few lives may be a necessary evil for the development of a drug to save thousands, which we have the ability to do right now at the early stage of Ebola's spread. Any delay, be it months, weeks, or even a few days, could cause thousands of deaths.

Throughout history we have sent soldiers to sacrifice their lives in battle for a greater good, but in this case we recoil at the thought. With conscription a man has as much control over his participation in war as victims of Ebola have over their catching the disease. How can we sacrifice fellow citizens for a greater good in war, but find disgust when doing the same with these patients? We should not be so quick to reject this notion of sacrifice, for the result could make a monumental difference.

BRIEN COMEY
Gambier, Ohio

SIR – To your list of diseases in Africa that have killed more people than Ebola you might add tuberculosis, which according to the World Health Organisation, killed over 10,000 in Guinea, Sierra Leone and Liberia in 2013, about twice the number of deaths currently reported from Ebola. Tuberculosis also killed 460 people in Britain that year.

PROFESSOR PETER DAVIES
Secretary
TB Alert
Liverpool Heart and Chest Hospital

Planting pot

SIR – Like others you write about the legalisation of the growing cannabis "industry" ("Marijuana milestone", November 8th). But the last thing this industry needs is to become like Big Tobacco. Cannabis is not an easy plant to cultivate. It requires a lot of attention and this is reflected in the price. Because sales and investment between states in America is banned it remains a local industry that maintains a high quality. There are dozens of examples of mass-produced cannabis products that are bland, tasteless reflections of what was once crafted or cultivated with care.

W.J. TATE IV
Ewing, New Jersey

SIR – The United States has almost twice the rate of marijuana use as the Netherlands, where the drug has been legally available for decades. The criminalisation of people who prefer marijuana to martinis has no basis in science. The war on cannabis is a failed cultural inquisition, not an evidence-based public-health campaign. It is time to stop the pointless arrests and instead legalise cannabis and tax it.

ROBERT SHARPE
Policy analyst
Common Sense for Drug Policy
Washington, DC

Election comedown

SIR – The American government faces a crisis of culture, or to be more precise a crisis of two cultures ("Powering down", November 8th). The culture of both big parties has changed for the worse over the past 15 years by becoming more extreme in its views. Like most organisational culture issues this one is driven by the leadership of each party. Harry Reid, Nancy Pelosi, John Boehner and Mitch McConnell have proved to be hateful, bitter politicians who seem to be more focused on their own hubris and the *Schadenfreude* of their political foes than on helping their 316m fellow citizens. But the "sand in the cogs" of American politics that you described is made worse by a shameful undercurrent of prejudice against Barack Obama.

When you take these factors into consideration the only hope America has to mend its bent political process is new leadership on both sides, which will be extremely difficult to achieve because we have no congressional term limits. I am not sure what it will take to wake up my fellow citizens from their political apathy but until that happens I see little hope in progress.

JAMES WILTON
Anthem, Arizona

SIR – The award for funniest campaign advertisement ever ("Of bridal dresses and sweatshirts", November 8th) must go to Tom McClintock, who created the fictional Cousin Angus McClintock to attest to the veteran politician's innate understanding of thrift, given his Scottish heritage.

With a bellow on his bagpipe, the kilted Cousin Angus proclaimed that Mr McClintock was "as tight as a bullfrog's behind. And that, me friends, is watertight." Wealth trumped thrift, however, as Mr McClintock lost to a venture capitalist in that campaign.

SUNITA SOHRABJI
Fremont, California

Political spinning

SIR – "Let them fly" (November 8th) welcomed the arrival of a "centrifugal mood" towards decentralisation in British politics. I found myself puzzled, as a centrifugal force is either fictitious (a physicist's trick to account for how a problem is framed) or is an opposing reaction to a centripetal force, in which case it, literally, leaves you going around in circles. May I ask which concept you were welcoming?

JOE JACKSON
London

In case you weren't sure

SIR – Any lingering doubts we, your readers, had about who was whom in the photograph of two of the world's most powerful men that accompanied "The Chinese order" (November 15th) must have been delightfully shattered by your helpful clarifications: "President Xi Jinping (above, right)…Barack Obama, America's president (above, left)."

ASAD HAIDER
New York ■

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When wireless worlds collide

There are reckoned to be 47m Wi-Fi hotspots around the world. By 2018 that number is expected to soar to 340m. Mobile-network operators are increasingly reliant on these hotspots as a cheap way to reduce pressure on their cellular-data networks

Enfant de la Patrie

The video of beheadings released on November 16th by Islamic State showed two French jihadists among the killers. France is the biggest supplier of European jihadists and the government is now under pressure to combat the causes of radicalisation

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Featured comment

"A species evolves to deal with the challenges in its environment. When change is rapid, the species can rarely adapt quickly enough. Our brains are hard-wired to deal with living in small hunter-gatherer groups; we simply can't cope with the problems thrown up by 7 billion people living in a global economy."—on "Fear and change", November 16th 2014

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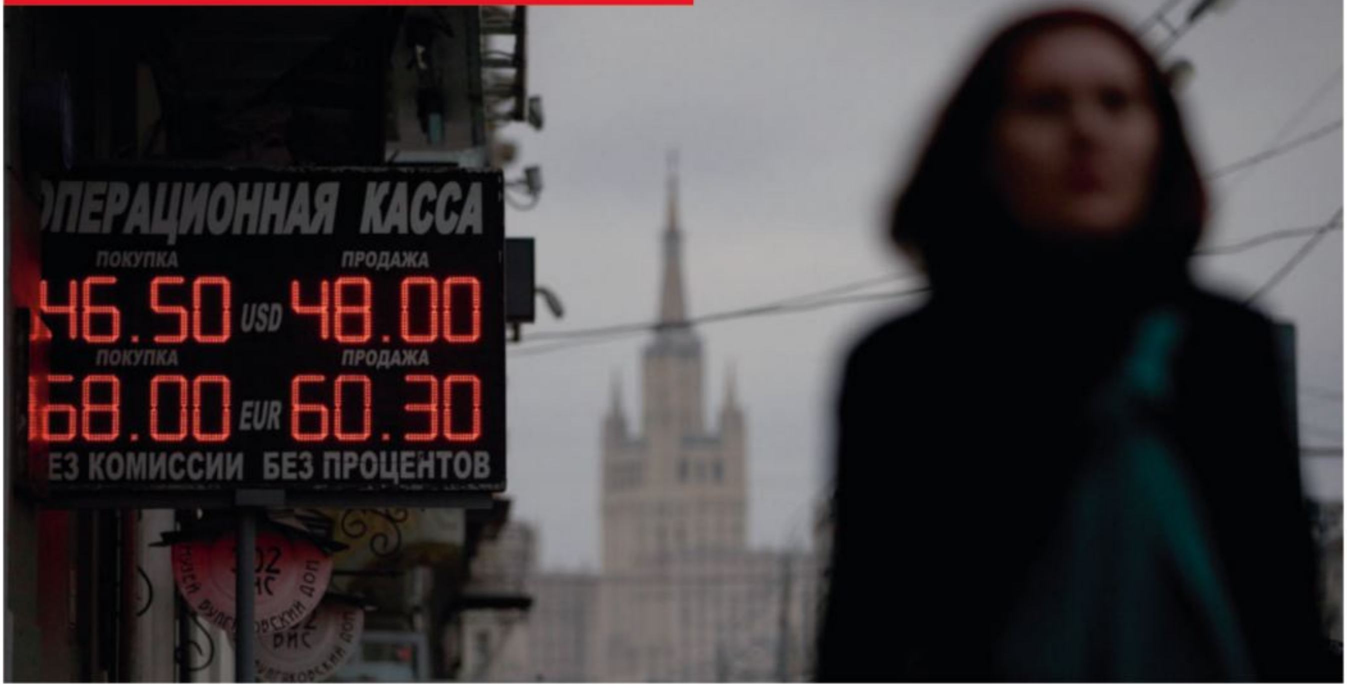


The end of the line

MOSCOW

For more than a decade oil income and consumer spending have delivered growth to Vladimir Putin's Russia. Not any more

MALINA, a trendy restaurant in a city south of Moscow, was empty on a recent Thursday evening. "A crisis," the manager explained nervously. Some meat and fish dishes were missing. "Sanctions," he added with a sigh. The signs of a country in the economic doldrums are visible in Moscow, too. Tour operators are going out of business; shops and small businesses are up for sale; LED displays outside bureaux de change send spirits sinking.

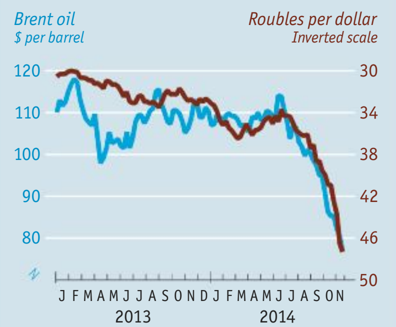
Russia's economy is teetering on the verge of recession. The central bank says it expects the next two years to bring no growth. Inflation is on the rise. The rouble has lost 30% of its value since the start of the year, and with it the faith of the country's businessmen. Banks have been cut off from Western capital markets, and the price of oil—Russia's most important export commodity—has fallen hard. Consumption, the main driver of growth in the previous decade, is slumping. Money and people are leaving the country.

This is not the mid-1980s, when a collapse in the oil price paved the way for *perestroika* and the eventual collapse of the Soviet Union. Nor is it 1998, when the country defaulted on its debts. While the overall mood is clearly depressed, it is a long way from panic. Russia's total foreign debt is just 35% of GDP; it has a private sector which can be surprisingly agile and adaptable and is contributing some growth by substituting things made at home for imported goods; most importantly, it has a floating exchange rate that mitigates some of the oil-price shock.

No longer affordable

But the oil-backed consumption-led economy which has provided nearly 15 years of growth (it took a stumble in 2008-09, during the global financial crisis) has hit the buffers. It was already slowing before the oil price began to fall and adventurism in Ukraine was met by Western sanctions. Indeed some see the Ukrainian conflict as a response to the country's economic woes—an attempt to shore up through patriotic fervour the support that president Vladimir Putin can no longer buy by boosting living standards.

Plummeting 1



Source: Thomson Reuters

In 2007, when oil was $72 a barrel, the economy managed to grow at 8.5%; in 2012 oil at $111 a barrel bought growth of just 3.4%. Between 2010 and 2013, when oil prices were high, the country's net outflow of capital was $232 billion—20 times what it was between 2004 and 2008. Russian economists are now debating how long before the economy faces collapse. Most think it can totter on for two years or so. But there is a real chance things could get a lot worse a lot sooner.

The depreciation of the rouble, which closely tracks the oil price, has helped Russia cushion its budget as that price has slumped (see chart). When the oil price falls, so does the rouble; thus in rouble terms the amount of money the oil brings in stays roughly the same. But it cannot buy as much. Russia imports a great deal—the total value of imported goods, $45 billion in 2000, was $341 billion in 2013—and so a devalued rouble quickly stokes inflation. It is predicted to reach 9% by the end of this year; for food the rate is higher still. If it is to compensate the population for this loss in its spending power, the government will have to run a bigger deficit. If it does not it will face discontent. ▸▸

A weak rouble also makes servicing foreign debt more expensive. Russia's sovereign debt is just $57 billion, but its corporate debt is ten times as high. Some of it has been racked up by state corporations and national energy companies, which gives it a quasi-sovereign status. And by the end of 2015 Russian firms will have to repay about $130 billion of foreign debt.

Mr Putin, who came to power in the wake of the 1998 default, knows the value of money and believes enough of it solves everything. He started off strongly averse to low reserves and high debt, and saw that the country's reserves built up accordingly. In the run-up to the global financial crisis Russia had reserves of $570 billion—almost a third of GDP. This served the country well after the crisis hit; the government spent $220 billion refinancing banks and defending the rouble.

In 2011, though, despite the high oil price, Russia's reserves stopped increasing. Money was spent instead on raising salaries and pensions and financing the armed forces. The increase in military spending, up 30% since 2008, was the main reason Alexei Kudrin, Russia's prudent finance minister, chose to resign in 2011.

At the same time Russian firms went on a borrowing spree. They have increased their foreign-currency debt by some $170 billion in the past two years. Yevgeny Gavrilenkov, the chief economist at Sberbank CIB, the largest state bank, says most of this money settled offshore; only a very small part was invested in the Russian economy. Kirill Rogov of the Gaidar Institute for Economic Policy points to one of the reasons why. When a company can be swallowed by the state at any time, more debt will make it less appetising prey. This growing debt meant, Mr Rogov notes, that instead of preparing itself for a crisis, Russia has prepared a crisis for itself.

This does not mean that Russia is anywhere close to a sovereign default like that of 1998. Then government debt was 50% of GDP and reserves just 5% of GDP. Today Russia is still running a current-account surplus of about $50 billion because it is importing less. Mr Putin's restrictions on food imports, presented as tit-for-tat counter-sanctions, are more a way of preserving currency reserves and stimulating farms; Russia imports half its food. Food production is now growing at between 6% and 10%, albeit from a very low base. Other imports, such as medicines, are not so quickly replaced; as in Soviet days, petrodollars keep the shelves stocked.

The drop in oil prices in 2008-09 was met with a 40% increase in government spending. With reserves lower, and with the government needing to either keep those reserves available for bail-outs or to risk some big companies and banks going bust, that is not an option this time. Instead the country faces a period of stagflation. Renewed growth will require new investment and, most crucially, reform. What Russia needs most is what Mr Putin has done most to deny it: more competition.

A game of favourites

At a recent conference German Gref, the head of Sberbank, remarked that "[Soviet leaders] didn't respect the laws of economic development. Even more, they didn't know them, and in the end this caught up with them. It is very important for us to learn from our own history."

Even though his state is as reliant on oil money as the Soviet Union was, Mr Putin thinks he has done some of that learning. But as someone who believes that the state must keep tabs on everything, including the free market, he remains mistrustful of open competition. While Russia has a nominally free-market economy, it is one highly skewed by the misallocation of capital and resources to firms run by cronies.

The Kremlin distributes oil rent via state banks to firms and projects which it selects on the basis of their political importance and their pro-Putin stance. Most of the contractors for the Sochi Olympics, which cost Russia a staggering $50 billion, were firms run by Mr Putin's friends; most of the money took the form of credit from state banks. A number of these loans are unlikely to be paid back. Indeed, such loans are one of the reasons why the central bank has been forced to triple its provision of liquidity to the banks since the middle of last year.

Most of this money provided by the central bank, says Mr Gavrilenkov, ended up on the foreign-exchange market, putting pressure on the rouble. Since the central bank was known to intervene regularly to keep the rouble within a currency

Foreign-exchange reserves

Not quite all there?

Russia's official reserve figures overstate the funds it has at its disposal

"WE HANDLE our gold and currency reserves and government reserves sparingly." So said Vladimir Putin on November 13th. Mr Putin is wrong. In the past year Russia's foreign-exchange reserves have fallen by 20% as the central bank has tried to prop up the rouble. They stand at around $370 billion, with $12 billion more at the IMF (see chart). The central bank claims all of this is readily available. But there is some reason to doubt that.

Foreign-exchange reserves have assumed a new importance for Russia in recent months. As Western sanctions have shut Russian companies out of foreign debt markets, they struggle to raise money. That makes it harder to pay back the $130 billion of external debt that comes due between now and the end of next year. The Kremlin can step in: but if it helps Rosneft, a giant oil company, as it is being asked to, calls for more bail-outs will get louder.

Some people argue that Russia's reserves are so big that they can accommodate such demands and weather the economic storm. But the central bank exaggerates the reserves at its disposal. About $170 billion of its assets sit in two giant wealth funds, the Reserve Fund and the National Wealth Fund (NWF), and much of what is in these funds could prove illiquid or inaccessible if called on to meet short-term financing needs. Cash from the $82 billion NWF is committed to long-term infrastructure projects, says Sergei Guriev of Sciences-Po, a French university. The NWF has also provided money to VEB, the Russian development bank, to finance construction at the Sochi Olympics. The loans by which it did so have been "restructured" to allow delayed repayment. Mr Guriev says many people believe the money to have been embezzled. The NWF may thus be unable to offer any liquidity to the government.

In terms of money that could actually be put to use, Russia's reserves could be more than $100 billion lower than the headline figures suggest. Mikhail Zadornov, a former finance minister, said in a recent interview with Dozhd, a television channel, that the usable amount could be as low as $200 billion. If current trends continue Russia may soon have enough for just three months' worth of imports: below that level, financiers start to panic. That is bad news for a country that will struggle to find cash elsewhere.

Slippery

Russia's international reserves, $bn

Source: Bank of Russia

*Includes Special Drawing Rights and IMF reserves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TO SHANGHAI

corridor, the banks could place one-way bets on the devaluation of the rouble. As a result the Russian financial sector expanded by 11.5% in 2013, although GDP grew by only 1.3%. In the past few weeks the central bank said it will intervene in an ad hoc way with as much money as it sees fit. This makes speculation a lot riskier. The central bank said it would also curb the refinancing of the banks. If it can stick to this in the face of lobbying pressure from state firms and banks demanding cheap liquidity and fresh equity, the currency could stabilise.

That pressure, however, will be immense, particularly if the economy starts to shrink. Rosneft, Russia's national oil company, run by Igor Sechin, Mr Putin's close confidant, is already asking the government for money, in part to help it repay $30 billion of debt which it took on when buying a successful private company, TNK-BP. "We can easily utilise 1.5 trillion-2 trillion roubles ($32 billion-$43 billion) from the National Wealth Fund," Mr Sechin said recently. If so, what is to stop the next handout?

Pumping money into Rosneft would be exactly the sort of misallocation that underlies the economy's weakness. The energy sector, which accounts for 20% of GDP, grew by a meagre 1% on average over the past decade. The industry has not been cutting costs or developing new production; it has been busy being nationalised instead, and offers textbook examples of the woes of state-owned enterprises (see page 57) While the state still had money, it could afford to buy out private owners, as it did in the case of TNK-BP. Now it simply wrestles oil firms away from their owners, as it is doing in the case of Bashneft, a medium-sized but fast-growing oil firm which is being expropriated from Vladimir Yevtushenkov, a billionaire who is under house arrest. Political loyalty—and Mr Yevtushenkov was certainly loyal—is no protection against raiding.

During the fat years, Mr Putin had an easy job satisfying all. Now he will face a tough decision whether to support the inefficient energy sector and the military-industrial complex with public money or rely on the more dynamic flexible small and medium-sized companies to pull Russia out of the crisis. There have been reports that Mr Putin plans to give a speech on economic liberalisation to parliament next month. But, if he runs true to form, when faced with a crisis he will stick with the state sector run by his friends rather than ceding control and trusting private firms which will demand reforms and, in the end, political freedoms.

The echo of 1913

The state of the Russian economy will affect Russia's actions beyond its borders. In 2013 the Russian people were better off than at any previous point in history. Their priorities, says Mikhail Dmitriev, the head of New Economic Growth, a think-tank, switched from economic survival to imperial resurgence. Mr Dmitriev compares the moment to 1913—the Russian economy's last successful year before the first world war and the Bolshevik revolution. Then, too, there was patriotic euphoria; it did not survive the onset of losses in the war.

While people still support Mr Putin and Russia's annexation of Crimea, they are starting to calculate the costs. Mr Dmitriev, who accurately predicted street protests in Moscow in 2011, argues that economic dissatisfaction is growing, although support for Mr Putin remains at a record high. "People's priorities are switching back to basic survival needs," he says: "salaries, social benefits, jobs."

Protests driven by economic and also social issues have already started. Even in Moscow where the mood for protest is low, teachers and doctors have come out onto the streets to protest against pay cuts and restructuring. More protests are planned before the end of the month. Opinion polls show that most people neither support a real war in Ukraine nor are prepared for their children to fight in it. Alexei Tsulik, a small-time farmer who is counting on his 22-year-old only son for help, speaks for an increasing number when he says: "It is none of our business. We have plenty to do here on the farm." ■

Regional successes

Bright spark

KALUGA

Some of Russia is business friendly

ANATOLY ARTAMONOV, the energetic and resolute 62-year-old governor of Kaluga, knows what he wants: foreign investment, competition, an open relationship with Europe and America. And some of it he's getting. While money gushes out of Russia as a whole, foreign direct investment in Kaluga, a region 150 kilometres south of Moscow, rose nearly 13% year-on-year in the first half of 2014.

In the Soviet days 80% of Kaluga's economy served the military-industrial complex. Now it is home to global car manufacturers, including Volkswagen, Volvo and Renault, as well as high-end pharmaceutical companies. "This is not Russia; it is Singapore," says Dmitry Popov, the head of the local subsidiary of Magna, a Canadian-owned car-parts manufacturer.

Mr Artamonov's parents were farmers whose land and stock were collectivised in the 1930s; he was a local party boss running a collective farm when the Soviet Union collapsed. At that point he turned himself into a businessman and then a governor. He learned English and surrounded himself with bright young managers.

Mr Artamonov looks out for opportunity

"We have no natural resources here—so we had to attract investors by creating a special environment," says Mr Artamonov. He and his team copied things they saw working in Turkey, China, America and South Korea. Foreign investors got tax breaks, infrastructure and protection against harassment by bureaucrats and officials, along with Mr Artamonov's phone number (he answers their calls). Kaluga has built industrial parks and technical colleges to supply qualified labour. To do all this Mr Artamonov has run up debt equivalent to 54% of the region's annual tax take. He is now focusing on agricultural investment, subsidising equipment for dairy farms.

In the next few months Kaluga will have its own international airport to receive the private jets of foreign CEOs. The question is how many will land. Western sanctions, economic stagnation and the fall in the oil price puts everything Kaluga has achieved at risk. The car industry has been hit by the double whammy of slumping demand and the rising price of imported parts. Sales of foreign cars assembled in Russia are down by 22%. In the past few months Volkswagen has twice stopped its production line. The Western hope is that people like Mr Artamonov will start putting pressure on the Kremlin to scale back its aggression. There are few signs of that so far.

Also in this section

Drug addiction

The great American relapse

DENVER

An old sickness has returned to haunt a new generation

PICTURE a heroin addict. "A bum sitting under a bridge with a needle in his arm, robbing houses to feed his addiction," is what many people might imagine, believes Cynthia Scudo. That image may have been halfway accurate when heroin first ravaged America's inner cities in the 1960s and 1970s. But Ms Scudo, a smartly dressed young grandmother from a middle-class Denver suburb, knows that these days it is not always like that. Until not so long ago, she was a heroin addict herself.

The face of heroin use in America has changed utterly. Forty or fifty years ago heroin addicts were overwhelmingly male, disproportionately black, and very young (the average age of first use was 16). Most came from poor inner-city neighbourhoods. These days, the average user looks more like Ms Scudo. More than half are women, and 90% are white. The drug has crept into the suburbs and the middle classes. And although users are still mainly young, the age of initiation has risen: most first-timers are in their mid-20s, according to a study led by Theodore Cicero of Washington University in St Louis.

The spread of heroin to a new market of relatively affluent, suburban whites has allowed the drug to make a comeback, after decades of decline. Over the past six years the number of annual users has almost doubled, from 370,000 in 2007 to 680,000 in 2013. Heroin is still rare compared with most other drugs: cannabis, America's favourite (still mostly illegal) high, has nearly 50 times as many users, for instance. But heroin's resurgence means that, by some measures, it is more popular than crack cocaine, the bogeyman of the 1980s and 1990s. Its increased popularity in America contrasts strongly with Europe, where the number of users has fallen by a third in the past decade. What explains America's relapse?

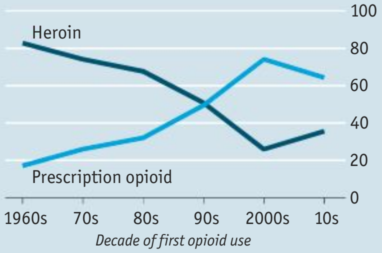
A shot in the arm

Like many of America's new generation of users, Ms Scudo never intended to take up the drug. Her addiction began in 2000 when, after a hip injury, a doctor prescribed her "anything and everything" to relieve the pain. This included a high dose of OxyContin, a popular brand of opioid pill. Her prescription was later reduced, but she was already hooked. On the black market OxyContin pills cost $80 each, more than she could afford to cover her six-a-day habit; so she began selling her pills and using the proceeds to buy cheaper heroin. As if from nowhere, Ms Scudo had become a heroin addict.

New means, same end

Heroin-dependent sample that used heroin or a prescription opioid as their first opioid of abuse

% of total

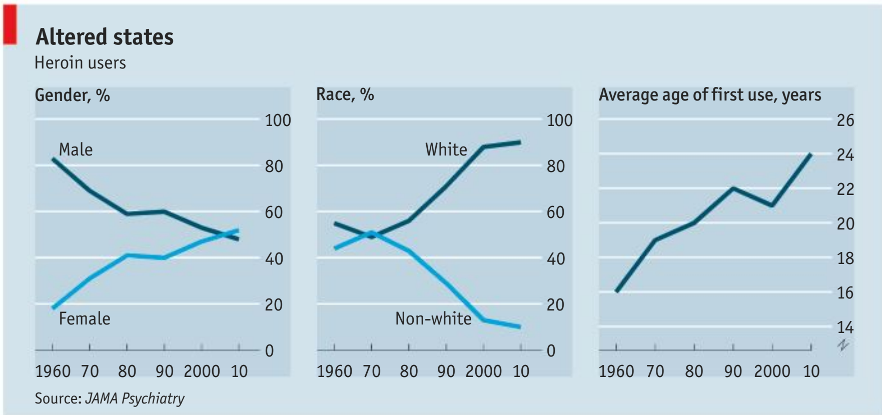


Source: *JAMA Psychiatry*

Thousands more have gone down this path. The 1990s saw a big increase in prescriptions of opioids for chronic pain. In some states the number of opioid prescriptions written each year now exceeds the number of people. That oversupply feeds the black market: last year 11m Americans used illicitly-acquired prescription painkillers, more than the number who used cocaine, ecstasy, methamphetamine and LSD combined. People who would never dream of injecting heroin seem to assume that opioids in packets are safe.

But they aren't. In 2012 prescription painkillers accounted for 16,000 deaths—nearly four out of every ten fatal drug overdoses in America. As the toll grew, some states tightened up the law. In many places doctors must now check databases to make sure the patient has not already been prescribed painkillers by another clinic. Prescriptions have been cut down to as little as a single pill, to reduce the supply of unfinished packets. "Pill mills", clinics that churned out prescriptions with no questions asked, have been shut down. And drug manufacturers have made their medicines harder to abuse: the latest OxyContin pills, when crushed, turn into a gloop that cannot easily be snorted or dissolved for injection.

These measures have had some impact: rates of prescription-drug abuse and of overdose have dipped a little in the past two years. But as the supply of pain pills has dropped, and their black-market price



Source: *JAMA Psychiatry*

has risen, many addicts have turned to heroin to satisfy their craving more cheaply. "We saw it coming at us at 90mph, like a freight train," says Meghan Ralston of the Drug Policy Alliance, a drug-reform pressure group. The number of deaths from heroin overdoses doubled between 2010 and 2012, and many of those attending addiction clinics are college-age, middle-class types who started on prescription pills.

The Mexican wave

Just as the demand side of America's heroin market was heating up, so too was supply. Though Afghanistan accounts for 80% of global opium production, America gets most of its heroin from Mexico. Historically that has checked consumption, since Mexico has long been a relatively small producer of opium poppies.

In the past few years the Mexicans have upped their game. One of the many unintended consequences of Mexico's war on organised crime in urban hotspots, such as Ciudad Juárez, was that the army was diverted from poppy eradication in the countryside. Farmers in the Sierra Madre made the most of this: by 2009 cultivation was ten times higher than in 2000. Although production has fallen back in the past few years, Mexico is now the world's third-biggest producer of opium, after Afghanistan and Myanmar.

Policy changes in America have given Mexico's narco-farmers further incentives to focus on opium. Until not so long ago, Mexican traffickers made a lot of their money from cannabis. But these days most of the cannabis in America is home-grown. Nearly half the states have legalised medical marijuana, and four have voted to legalise it outright. Exporting pot to the United States is now like taking tequila to Mexico. Facing a glut in the cannabis market, Mexican farmers have turned to poppies.

America's police have seen the impact. Seizures of heroin at the border with Mexico have risen from 560kg (1,230lb) in 2008 to about 2,100kg last year. And the smugglers have become bolder. "Three or four years ago, 5lb was big. Now sometimes we're finding 20lb," says Kevin Merrill, the assistant special agent in charge of the Drug Enforcement Administration on the outskirts of Denver.

The low transport costs faced by Mexican traffickers, who need only drive from Sinaloa to the border, mean that their heroin is far cheaper than the Colombian or Asian sort. A gram of pure heroin in America now costs about $400, less than half the price, in real terms, that it cost in the 1980s. And whereas much of the heroin in the past was of the "black tar" variety, which is usually injected, there is a trend towards brown heroin, which lends itself better to snorting and smoking. That matters to novice heroin users, who may be skittish about needles. "I somehow thought that if I didn't inject it, I wasn't a heroin addict," says Ms Scudo, who smoked it instead.

As fewer people are introduced to prescription opioids, the number who are vulnerable to heroin addiction will also eventually fall. "Things are getting a little better," says Patrick Fehling, a psychiatrist at the CEDAR rehabilitation clinic in Denver, where Ms Scudo eventually kicked her habit. Yet services like these are scarce, particularly for the poor: a month at CEDAR costs $27,000. Those with no money or insurance are more likely to be put on methadone, a heroin substitute which sates cravings but does not stop them.

Now that heroin addiction is no longer a disease only of the urban poor, however, attitudes are changing. The Obama administration's latest national drug strategy, published in July, criticised "the misconception that a substance-use disorder is a personal moral failing rather than a brain disease". It called for greater access to naloxone, an antidote that can reverse the effects of heroin overdose, and backed state-level "good Samaritan" laws, which give immunity to people who call 911 to help someone who is overdosing. Needle-exchange services, which have cut rates of hepatitis and HIV among drug users in Europe, are expanding. These programmes are easier for politicians to sell now that heroin addiction is no longer just the "bum under the bridge". ■

Keystone XL

Back in the pipeline

WASHINGTON, DC

Congress has a fruitless fight over a modest proposal

ACCORDING to Joe Manchin, a Democratic senator from West Virginia, one advantage of the Keystone XL pipeline is that "wars could be prevented". Barbara Boxer of California, also a Democrat, says that the pipeline would bring Shanghai-like smog to America—her point illustrated with a huge picture of Chinese people in facemasks.

So goes the hyperbole which surrounds the proposed pipeline, which is intended to link Canadian oilfields and tar sands with American refineries. On November 18th the Senate narrowly failed (59 votes to 41, 60 being required) to pass a bill that would have authorised its construction. The tight vote, with 14 Democrats joining all the Republicans to try to push it through, gave a hint of what may happen when the Republicans take over the Senate in January.

The Obama administration is not overkeen on the pipeline. The vote was mostly the work of Mary Landrieu, a centrist Democrat from Louisiana. She is fighting a run-off election for her seat against Bill Cassidy, a Republican congressman who sponsored the passage of the same legislation through the House. Oil is a big industry in Louisiana, and the president is deeply unpopular there: Ms Landrieu hoped the vote on her bill would help to prove her independence and "clout". Harry Reid, the Senate majority leader, apparently allowed the vote to bolster her campaign.

Keystone XL makes environmentalists livid: many of them protested, inflating an enormous black plastic pipeline on Ms Landrieu's lawn in Washington. Oil extracted from Canada's tar sands produces about 17% more carbon dioxide than conventionally-pumped supplies do—largely thanks to the energy needed to get it out of ▸▸

the ground. The process uproots forests and leaves toxic lakes behind. A pipeline carrying Canadian oil to Gulf coast refineries would lower the cost of getting such oil to market, so it might encourage energy firms to extract more.

Supporters point to the jobs that the scheme will create: some 42,000, according to estimates by the State Department (Ms Landrieu rounded this figure up to "millions" in the Senate debate). Some also suggest the pipeline will reduce America's dependence on oil from the Middle East and lower petrol prices for Americans in the states where the oil will be refined. A few, such as Mr Cassidy, deny that global warming is a problem at all.

Yet the curious reality is that few experts think the pipeline is all that important, either way. Canadian oil is already getting to market, points out Charles Ebinger of the Brookings Institution, a think-tank—just mostly by barge and train. A new pipeline would ease the strain on Canada's railways and increase the profitability of extracting the oil. But compared with swings in global oil prices, the effect will be small. Nor will many jobs be created. Most of those 42,000 are temporary posts; just 35 full-time permanent employees will be needed to run the pipeline.

Oddly, the project may not matter much in Louisiana. If completed, Keystone XL will deliver oil to Texas, not its neighbour. Some voters do still care, reckons Pearson Cross of the University of Louisiana, but they are unlikely to switch allegiance as a result of an ineffective vote in Congress. "The only way this could change anything around ultimately is if this got to Obama's desk and he signed it," says Mr Cross. Even then, he reckons, the effect would be slight.

Mr Obama may well end up signing a bill authorising the project. Just not yet. Allowing the pipeline to be built now would not just upset the president's few remaining fans, especially when he is trying to cheer them up with immigration reform (see Lexington); it would also throw away a bargaining chip that could be useful in the future. When Republicans take control of the Senate, Mr Obama will want as many of those available as possible. ■

Infrastructure

Going their separate ways

WASHINGTON, DC

States and cities seize the initiative on transport funding

ENERGY has been an economic bonanza for Texas in recent years, and a financial headache for its transport planners. The state recently forecast that maintaining the roads and bridges that serve its oil- and gas-fields and wind farms, along with the rest of the state's vast network of highways, would outstrip dedicated transport revenues by $5 billion a year.

Relief, however, is on its way. On November 4th Texan voters agreed to steer $1.7 billion of oil- and gas-production taxes towards the highway fund. By the middle of December the state hopes to start doling out the money to local governments for highway expansions, repairs and other much-needed projects.

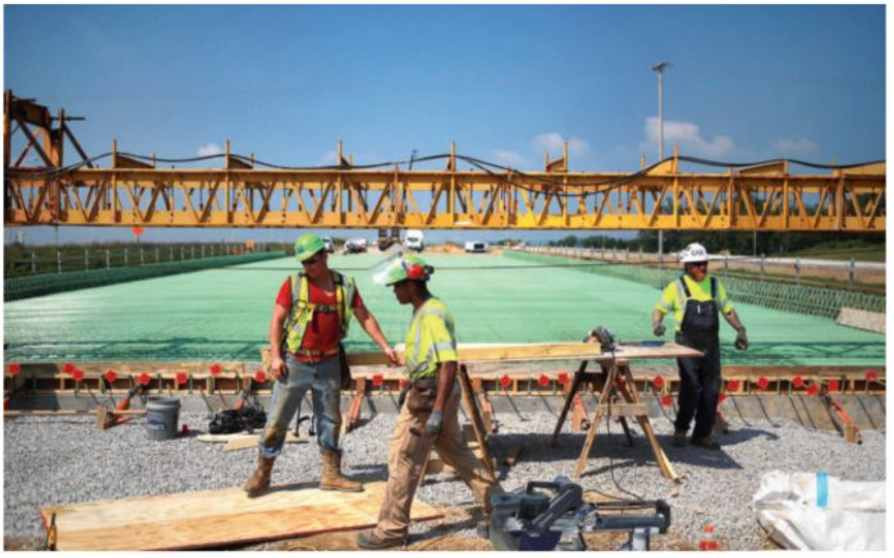
Texas was not alone. On the same day voters approved 63 out of 94 state and local ballot initiatives providing nearly $15 billion for various transport projects, matching the high approval rates in previous years, according to the American Road & Transportation Builders Association, a trade group. Americans may be divided on the wisdom of government spending, but the tangible appeal of better roads and transport crosses party lines. On the same day that Texas voted for more spending, voters in Maryland and Wisconsin passed constitutional amendments to stop politicians raiding highway funds for other purposes—as they regularly do.

State and local initiatives are becoming increasingly important because federal spending on transport is hamstrung. Of the $142 billion that government spent on roads in 2012, the last year for which data are available, the federal government contributed 28%, almost all of it from the highway trust fund. That fund is financed principally by a petrol tax that has not risen since 1993. Petrol-tax revenue peaked in 2006, and has since declined because cars are more fuel-efficient and younger people are driving less. That has left a gap between federal highway commitments and the money available. Since Congress dare not incur drivers' wrath by raising the petrol tax, it scrounges money from elsewhere to fill the gap. The latest deviousness came in July, when an accounting gimmick was used to cover a $10.8 billion shortfall and keep the fund going until May.

The gap will only grow in coming years, reaching $120 billion by 2024, according to the Congressional Budget Office. That guarantees a near-permanent cloud of uncertainty over whether federal financing will flow.

States have several ways of financing infrastructure. Publicly-approved bond issues and partnerships with private consortia can support upfront capital outlays. Public funds and bonds plus private bonds and equity are financing a major bridge-and-road project between Indiana and Kentucky (pictured). The public still pays, through tolls, taxes or fees. In the past three years six states have raised fuel taxes, two have introduced wholesale taxes and four have brought in, or considered bringing in, a dedicated sales tax for transport, according to Ken Orski, who writes a newsletter advocating more infrastructure.

Local governments have done the same. In 2010 Clayton County, a suburb of Atlanta which includes its airport, elimi-


On the banks of the Ohio

Correction: Our piece on the mid-terms in the November 8th issue said that Carl DeMaio, a gay Republican in California, had been elected to Congress. In fact, it emerged after we went to press that he narrowly lost. Our apologies.

nated its entire public-transport system to cope with a budget crisis. On election day this year its voters agreed to a one-cent sales-tax increase to restore it. On the other side of the country voters in Alameda County, California approved a half-cent increase in the sales tax to finance transport improvements.

Voters may be happier paying their state and local governments for transport because they see the benefits directly. This has prompted some to suggest that the federal government should get out of the business altogether. That, however, runs into two problems. One, notes Adie Tomer of the Brookings Institution, a think-tank, is that federal funding makes interstate highways a priority, as the backbone of cross-country trade; states, left to their own devices, might not. The other drawback is that states may not relish taking on the whole transport burden, since they too often face resistance to taxes. In 2013 Massachusetts indexed its petrol tax to inflation; this year, voters repealed that. One reason that Texas tapped oil and gas producers for road money is that legislators dare not raise the state petrol tax, frozen since 1991, or the vehicle-registration fee, largely unchanged since 1987. ■

Atlanta's new trams

All aboard!

ATLANTA

Southerners increasingly want to be taken for a ride

A TINY scarlet hut on Auburn Avenue in Atlanta, Thelma's Kitchen and Rib Shack, serves up world-beating catfish and grits. Demand for its grub is about to soar. The reasons why sit under a nearby bridge: four shiny new streetcars, each 80 feet (24 metres) long and capable of carrying 200 passengers, waiting for the opening, any day now, of Atlanta's tram system. The 2.7-mile (4.3km) route will bring new commuters, customers and visitors to the district, and to Thelma's. The area has already attracted $370m in investment since 2010.

Americans are slowly warming to public transport, and used it for a record 10.7 billion trips last year. Even those living in the South and south-west—home to some of the country's most sprawling cities—are getting more of a taste for it. In Tucson, Arizona, Orlando, Florida and Dallas, Texas, light-rail systems have been expanded recently, according to Art Guzzetti, a vice-president of the American Public Transport Association. He reckons transport links in Charlotte, North Carolina are among the best in the country.

In Atlanta, the social benefits could be considerable. It is one of America's worst cities for upward mobility. A child born into a family with an income in the bottom fifth has just a 4.5% chance of making it into the top fifth; a baby born in San Francisco has a 12.2% chance. Many poor families are stuck, unable to get good jobs, partly because of the lack of public transport. The new streetcar should help by connecting residents to the city's main MARTA transport system. For some, it could also save a fortune in petrol: the average driver wastes $1,000-worth of fuel a year sitting in Atlanta's traffic.

Not all southerners are on board, of course. In 2010 campaigners chanting

A desire named streetcar

"No tax for tracks" scuppered plans for a light-rail project in Tampa, and Rick Scott, who became Florida's governor soon afterwards, rejected $2.4 billion in federal money for a high-speed railway line connecting Tampa and Orlando. But now a private company intends to open All Aboard Florida, a passenger-rail project between Miami and Orlando; parts of the line will welcome travellers by the end of 2016. The Texas Central Railway wants to build a high-speed line too, with trains travelling at up to 205mph, to link Dallas and Houston by 2021.

Demographic trends make public-transport projects increasingly attractive to private firms. Millennials (those born since the 1980s) drive far less than previous generations: only 67% of Americans aged 16-24 have a driving licence, the lowest figure for 50 years. Cheap tickets for buses and trains appeal to them. And the Atlanta streetcar will go one better: trips will be free for its first three months.

Criminal cities

The secret of success

NEWARK AND PHILADELPHIA

America's great crime wave is receding from some cities faster than others

BETWEEN getting out of his car and starting work in the morning, Bashir Akinyele, a beret-wearing history teacher in Newark, New Jersey, passes the sites of two murders. His school, Weequahic High, once taught Philip Roth, a giant among America's novelists. Its entrance is now blocked by a metal detector; armed cops share the corridors with teenage girls. In the streets nearby almost every intersection has been the site of a shooting. "I've been a teacher for 20 years," says Mr Akinyele. "And in that time, I've lost 38 students."

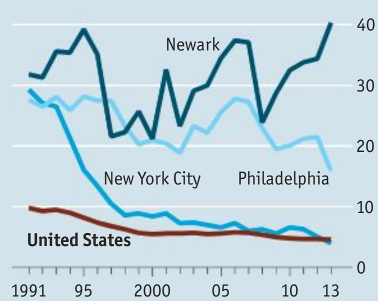
Weequahic is only 30 minutes' drive from Manhattan, but a world apart. In 1991 Newark and New York City had roughly the same murder rate: 32 and 29 per 100,000 respectively. But by last year New York's rate had fallen to four and Newark's had jumped to 40, according to the latest data published on November 14th by the FBI. On a night out in Brooklyn, the main threat is getting caught in a boring conversation with a hipster. In Newark, when darkness fell, your correspondent was ushered back downtown by police.

Over the past 20 years, crime has fallen spectacularly in America and across the rich world. The FBI data suggest it is still falling: violent crime decreased by 4.4% between 2012 and 2013, and murder is now less common than at any time since the end of the 1950s. Criminologists have countless plausible theories to explain this, ranging from less lead-poisoning to the rise of car immobilisers. Yet the difference between cities such as Newark, which remain dangerous, and those like New York, which are safe, suggests a somewhat subtler explanation.

In Washington, DC the murder rate has ▸▸

Safer for some

Murders per 100,000 people



Source: FBI, *Uniform Crime Reports*

dropped from a terrifying 81 per 100,000 in 1991 to a fifth of that now. In Los Angeles gang warfare has largely given way to organic coffee bars, and burglaries and robberies have become rare. Yet cities like Philadelphia and Chicago have experienced more modest improvements. And in places like Baltimore, Newark and Detroit some crime rates have barely fallen.

One possible explanation is the varying quality of local government. In New York and Los Angeles, reformers such as Rudy Giuliani, who was New York's mayor in the 1990s, and Bill Bratton—chief of police in both cities at different times—forced cops out of their cars, adopted data-driven policing and tried to make public spaces feel safe. They reckoned that residents had to trust the police for crime to fall—which meant purging corruption—and that criminals had to be deprived of convenient places to hang out.

In Newark, by contrast, Sharpe James, the mayor until 2006, was imprisoned in 2008 on fraud charges. His successor, Cory Booker, now a Democratic senator, did much to attract investment into downtown Newark, and managed for a short time to reduce crime and overhaul the police department; but the money ran out, and he later had to cut the force sharply. The present mayor, Ras Baraka, a more traditional rabble-rouser, has hired new cops, but the police force remains troubled (it is, uniquely, monitored by the federal Justice Department). When *The Economist* visited, the new police director and police chief led officers on a "community walk" around a sketchy neighbourhood. They seemed to spend much of their time telling people how excellent the new mayor is.

Some think that too much prison breeds nastier criminals: when released, they may be more dangerous than when they went in. In Philadelphia most homicides stem from stupid arguments, often between ex-convicts, says Lieutenant John Stanford of the local police. Newark has 278,000 people yet, each month, 1,400 prisoners are released from the local jail.

However, incarceration rates are high throughout America, so this cannot explain the specific ills of its most crime-ridden cities. Nor can poverty: unemployment in New York City is not much lower than it was in the 1990s. Rather, according to John Roman, a researcher at the Urban Institute, a think-tank, crime is like a contagious disease. People who are vulnerable to criminality—poor, badly-educated young men—are far more likely to become criminals when they are surrounded by men much like themselves.

Although cities like New York and Los Angeles have plenty of poor people, they are—by American standards—not unusually segregated by race or income. The presence of ambitious new immigrants in deprived neighbourhoods provides an inoculation against crime. In Weequahic, by contrast, deindustrialisation led to depopulation. Whites and many middle-class blacks have fled. Those who remain are mostly poor and desperate. Low property prices provide little incentive for people to clean up blight.

Even in the most dangerous cities, however, there is hope. Urban populations are now growing across most of the country. In Philadelphia crime rates, though still high, dropped sharply last year. At a police town-hall meeting in the west of the city, people complain about noisy bars, troublesome children and illegal parking. A new charter school and a growing student population are changing the neighbourhood. Shootings are still frighteningly common, admits the local police captain, but milder worries are creeping in. ■

Campaign contributions

Live together, vote together

WASHINGTON, DC

The cosy political leanings of city residents and firms' employees

A DEMOCRAT running for office in northern California might consider targeting the money pots of San Francisco or San Jose. But the smaller, wealthier suburb of Palo Alto would be a surer bet. Palo Alto's residents gave 3.5 times more per head than San Franciscans during the mid-terms campaign, and three-quarters of the total went to Democrats. Conversely, the residents of wealthy Greenwich, Connecticut gave 14 times more per head than New Yorkers, with nearly two-thirds of their cash going to Republicans.

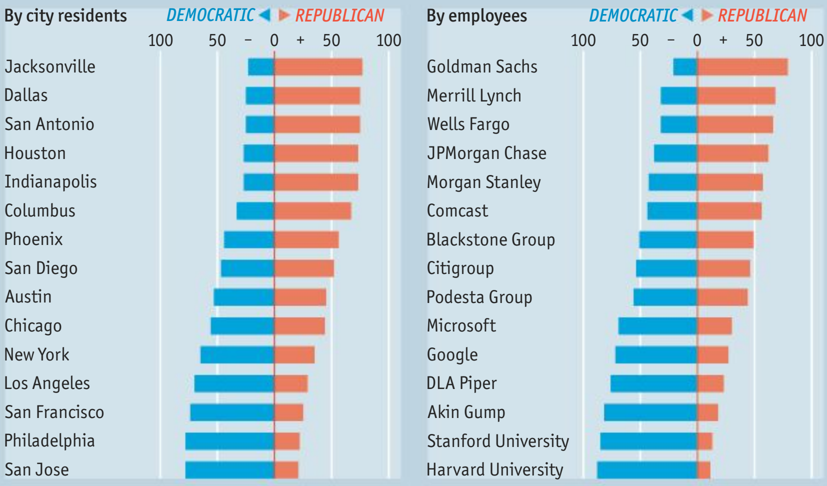
Americans who live and work together are often politically like-minded, according to *The Economist*'s analysis of more than 1.7m individual contributions of $200 or more made during the 2014 election cycle. The analysis also reveals which cities and companies are most politically engaged, financially speaking.

Famously liberal cities like Berkeley, California and Cambridge, Massachusetts gave overwhelmingly (94% and 96% respectively) to Democrats. Older, whiter, conservative cities like Wichita, Kansas and Oklahoma City donated almost exclusively (96% and 91%) to Republicans. Citizens of San Jose, Philadelphia and San Francisco gave to Democrats by a factor of three to one; the three largest cities in Texas, Houston, San Antonio and Dallas, favoured Republicans by the same margins.

Workers in certain industries also bunch together. Employees of tech companies, universities and law firms favoured the Democrats. The contributions from Google employees averaged $2,000, with three-quarters going to Democrats. Employees of financial firms, energy companies and military contractors largely supported the Republicans. Donors at Goldman Sachs far outspent their peers, with most of their average donations of $3,000 flowing to Republicans. Employees of Morgan Stanley and Citigroup gave almost equally to both parties, however. And the good folk of Bain Capital, solid supporters of their former boss Mitt Romney in 2012, gave 65% of their money to the Democrats.

Party animals

Share of individual contributions* to political parties, % (2014 election cycle)



Sources: Federal Election Commission; *The Economist*

*Of $200 or more

Lexington | Barack Obama runs a red light

A frustrated president rewrites immigration rules

THE right thing, done the wrong way. That may well be history's judgment on President Barack Obama's plan to shield millions of immigrants from deportation.

Mr Obama's executive action, due to be unveiled in a televised address on November 20th as this newspaper went to press, answers compelling calls to bring more order, compassion and even natural justice to a broken immigration system. Yet at the same time the president risks breaking the doctor's oath: first, do no harm. The political system—indeed the social contract that binds America's leaders and an unhappy, anxious electorate—is already in fragile shape. The president has spotted a real ill in the way that immigration laws function. But his proposed cure is unprecedented in its radicalism and scope. He seems set to grant legal papers to millions of foreigners, notably the parents of children who are citizens or legal residents. The reaction from opponents in Congress and the country may leave deep scars.

If congressional Republicans attempt even a fraction of what the hard right is demanding as revenge—from impeachment hearings to passing bills that defund what they call an unconstitutional "amnesty"—historians may pinpoint this TV address as the moment that hopes for substantial bipartisan co-operation faded, just 16 days after mid-term elections that saw Republicans take the Senate and increase their majority in the House of Representatives. Before history-writers set to work, it is worth considering how Mr Obama decided that this was the right thing to do.

The case for action is not hard to make. Successive governments have stood by as America became home to more than 11m illegal residents. That is a huge number in a country ruled by law, and tantamount to a "de facto amnesty" as both Republican and Democratic advocates for reform have said. Many of those foreigners arrived years ago, working hard and bringing up American children. But their families have enjoyed only provisional futures, overshadowed by the original sin of a parent or parents who arrived without the right papers. A traffic stop by police or a raid on a workplace has been enough to drag car mechanics, plumbers and waitresses into a deportation system meant to target convicted felons, recent border-crossers and threats to public safety. Since Mr Obama took office, more than 2m foreigners have been removed. Every country has the right to police its borders, but those removals divided a lot of otherwise law-abiding families, punishing youngsters who had done no wrong.

Congress could and should have passed a comprehensive law that made Mr Obama's unilateral actions unnecessary. In June 2013 a bipartisan majority of senators passed an immigration reform that—though unwieldy—would have brought millions of migrants in from the shadows and eased rules for some legal workers while boosting the (already vast) funds spent on border security. Alas, the plan was deemed too close to an "amnesty" in the House, a body crammed with members in super-safe districts whose main fear is not general elections but internal party rivals trying to grab their seats.

Congress is maddening, but it can't just be ignored

Even before the president unveiled his plans, Republicans set out their objections. Many reek of opportunism, some of hypocrisy: plenty of Republicans accusing Mr Obama of poisoning the well of bipartisanship have spent six years trying to thwart his every move. But it is possible for predictions of future doom to be both hypocritical and correct.

The strongest Republican charges concern precedent. Yes, as White House aides never tire of pointing out, other presidents back to Eisenhower have deferred deportation for specific groups facing wars or persecution. In 1990 George Bush senior also decreed that the spouses and children of people legalised under a 1986 immigration act should not be deported. But Mr Obama's actions are set to dwarf anything tried before, and unlike Mr Bush's 1990 move, are not a tweak to fix an ill-drafted law. Many Republicans are sincerely aghast at the implications of letting Mr Obama offer legal status—even temporarily—to millions with a pen-stroke (indeed, the president once seemed to agree, telling immigration activists who shouted that he had the power to stop deportation, "Actually, I don't"). As one unhappy Republican senator put it privately this week, could a future president from his party scrap corporation tax? That too would be wrong.

Other Republican arguments are more self-serving. Centrist Republicans who favour immigration reform (not least because yelling about "amnesty" repels Hispanic voters) fret that Mr Obama is going to awaken their party's angry nativists—but it is hardly the president's job to save Republicans from themselves. A spokesman for John Boehner, the Republican Speaker of the House, said on November 19th that if "Emperor Obama" ignores his previous qualms about the limits of presidential power, he will "ruin the chances" for congressional action on immigration—though there is no evidence that Mr Boehner was about to ask his fractious members to help Mr Obama pass ambitious reforms.

Mr Obama's biggest problem, however, is not Republicans. It is his apparent certainty that he hears a mandate to act in the national interest, because the country is tired of gridlock. A day after the Republicans' recent victory he harked back to his presidential wins, calling himself "the guy who's elected by everybody, not just from a particular state or a particular district." He said he heard a message from voters but also from " the two-thirds of voters who chose not to participate in the process yesterday."

That is perilously close to politics by telepathy: a lethal delusion that can afflict embattled leaders. Mr Obama is right that presidents enjoy a unique role in American democracy. It is true that voters are sick of gridlock. But many are also tired of him. If he misreads his mandate and overreaches, even in the best of causes, he may do real harm. ■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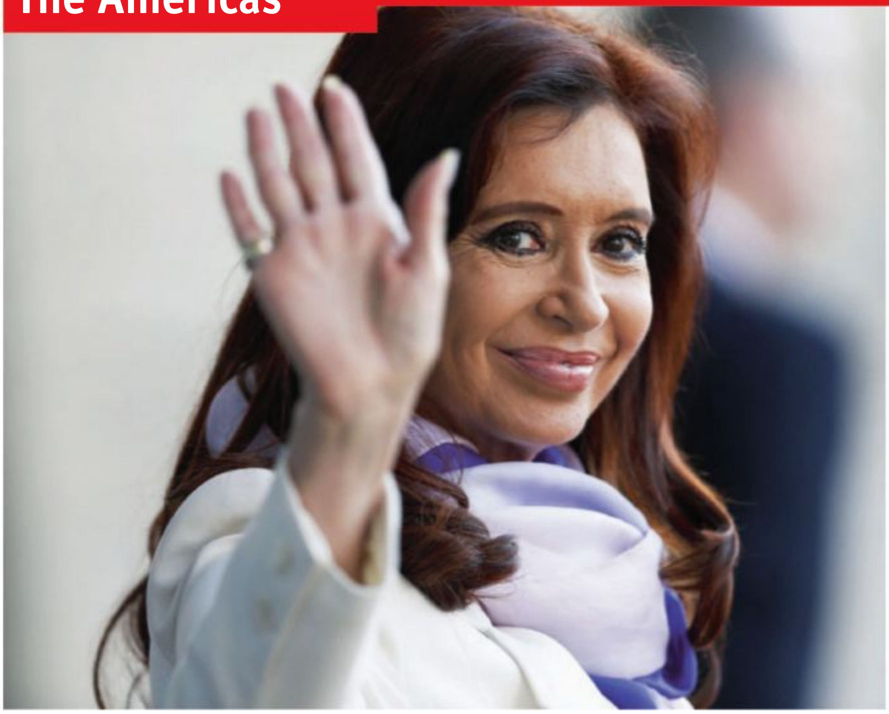

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Argentina

Cristina's long farewell

BUENOS AIRES

Long-suffering voters are looking to next year's election for relief

THE pot-bangers are back. On November 13th several thousand gathered outside the Casa Rosada, the president's residence, in Buenos Aires to protest against corruption, runaway inflation, crime and above all the government of Cristina Fernández de Kirchner. Judging by their chants, "*Argentina sin Cristina*" (Argentina without Cristina) was their principal demand. Her approval-rating languishes at 30%. But the crowd was nowhere near as large as the million who rallied in 2013. That is because the country will soon be rid of Ms Fernández. She is not allowed to run in next year's presidential election. Change will come, though just what sort is now hard to say.

The underlying grievances are as sharp as ever. The vice-president, Amado Boudou, has been indicted twice this year, once for corruption and once for fraud, but continues in office. Argentina's economy is suffering from a combination of a global slowdown (see Bello) and a series of self-inflicted wounds, including the imposition of exchange controls, which worsened a crisis of confidence in the peso, and a debt default in July, which sapped confidence further and intensified the recession.

Official numbers say that the unemployment rate climbed from 6.8% in the third quarter of 2013 to 7.5% a year later. But it is really 1.5-2 percentage points higher, private-sector economists believe. Even for Argentines with jobs, living standards are dropping. The country's inflation rate has soared from 28% in 2013 to an annualised 41% so far this year.

In real terms wages were 6.7% lower this September than they were last year, according to ACM, an economic consultancy. "Salaries had already started shrinking in 2012 and 2013, but more or less kept pace with inflation," says Maximiliano Castillo, a director at ACM. "This year things got much worse."

Car sales have plunged by 35% from last year. Even more worrying is the slide in spending at supermarkets, which dropped by 4.3% year-on-year from September 2013, according to EconViews, a consultancy. That suggests that hard-pressed Argentines are skimping on food.

The government's counter-measures are making matters worse. It has expanded state employment by nearly 5% this year to blunt the rise in joblessness. But the deficits needed to pay for this are being financed by printing pesos, which worsens inflation. Import restrictions to control the trade deficit are causing shortages of both consumer goods and the supplies that manufacturers need to maintain production. Unexpectedly, the "blue dollar" premium—the gap between the official rate for the United States dollar and the parallel free-market rate—dropped from 90% in September to 70% now. That improvement may reflect a currency swap with China, which has eased fears of a devaluation. But confidence in the economy and in the peso is still shaky.

The threat of social turmoil remains, too. December is a nervous month. It is when Argentines hoping to treat their families to holiday gifts and meals feel most stretched and summer heatwaves trigger power cuts. For the past two Decembers, police officers in various provinces have gone on strike for higher pay. Last year more than a dozen people were killed in looting during the police walkout. A week-long strike by police in Santa Cruz, starting last month, was a bad omen; it ended when the governor threatened them with sedition charges. Teachers in Buenos Aires province walked out on November 11th and 12th.

The next big test will come in January, when the government must decide whether to resume talks with creditors who hold bonds on which Argentina has defaulted. There is an opening, provided by the expiry on December 31st of the "Rights Upon Future Offers" clause of the bond contracts, which bars the government from offering one group of bondholders a better deal than the terms others received during earlier debt restructurings. Argentina defaulted rather than make an improved offer that had to be open to all bondholders. A deal with creditors could bring relief, however, by giving the country access to dollars, which would in turn allow it to ease controls on imports and on capital. But Ms Fernández's government has sent

mixed signals about whether it will talk to the bondholders who refused earlier deals.

The next presidential election, to be held in October 2015, will bring about a bigger change, with luck for the better. All three leading candidates say they would break with the populism and protectionism that have prevailed during the presidency of Ms Fernández and that of her husband, Néstor Kirchner, who governed from 2003 to 2007 and died in 2010.

The candidate closest to Ms Fernández is Daniel Scioli, the governor of Buenos Aires province, who belongs to her Peronist Front for Victory (FPV). But he is no clone. He is more pragmatic than the president. He would maintain the popular social programmes she introduced and would not reverse the nationalisation of YPF, the biggest energy company. But he says he would do a better job of fighting crime and inflation.

He faces a charismatic rival in Sergio Massa, a congressman who broke away from the FPV last year, more to distance himself from Ms Fernández than because of any profound disagreement with her. He is a gifted speaker and an astute political operator. So far his candidacy has revolved more around his personality than his ideas.

The biggest and perhaps most encouraging change would come from Mauricio Macri, the popular mayor of the city of Buenos Aires and the only non-Peronist in the race. Republican Proposal, the centre-right party he founded, is pro-market and favours greater openness to global and regional trading partners.

There is no clear front-runner in the early opinion polls. Much will depend on how the economy fares between now and next October. Relief from inflation and unemployment would help Mr Scioli. Further misery would play into the hands of his rivals—and bring out the pot-bangers. ■

Health in Central America

Misleading means

PANAMA CITY

An alliance of billionaires and bureaucrats makes a difference

IN FRONT of the skyscrapers on the esplanade in Panama City, joggers puff along a path in the morning heat, as men and women do push-ups and bench-presses. In this part of Panama the enemies are fat and diabetes. But a short flight away indigenous communities living amid fearsome overcrowding on the tropical islands of Guna Yala (formerly San Blas) are so poor and malnourished that their young children can die for lack of a boat fare to get to the nearest health clinic. Parts of Guna Yala are, says an official from the Inter-American Development Bank (IDB), "hell in paradise". This disparity between the rich-world health worries of city dwellers and the parlous situation of the poorest is prevalent across Central America. But until recently the IDB says it has never been measured or dealt with directly.


Nice rich people are looking out for you

Enter two of the world's richest men, Bill Gates, a founder of Microsoft, and Carlos Slim, a Mexican telecoms magnate. Together with the government of Spain, the IDB and eight regional health authorities, their charitable foundations set out in 2010 to survey and tackle the problem. The alliance between billionaires and bureaucrats has been fruitful. It has revealed the depth of the inequality and shown how entrepreneurial thinking can be applied to seemingly intractable problems.

The programme, called Salud Mesoamérica 2015, began by introducing the first large-scale health surveys of the poorest one-fifth of the population in Panama, Costa Rica, Nicaragua, Honduras, El Salvador, Guatemala, Belize and the southernmost Mexican state of Chiapas. The results, from surveys of more than 20,000 households by the University of Washington's Institute for Health Metrics and Evaluation, revealed what Julie Katzman, the IDB's second-in-command, calls "the tyranny of the law of averages".

In all of the poorest areas levels of stunting, a harbinger of ill health, were well above national averages (see chart). In indigenous parts of Guatemala, for example, rates of stunting and anaemia among infants match those of some of the poorest areas of sub-Saharan Africa. In remote Panamanian areas like Guna Yala less than 10% of children under five are fully vaccinated. Mothers of the poorest children in Panama, Guatemala and Chiapas have far less access to family planning and hospitals than the rest of their compatriots. Yet because national averages show impressive improvement, those on the margins receive scant attention.

Armed with the data, the donors and the IDB agreed on stringent 18-month targets for improvement with the eight regional health authorities, giving them the freedom to design their own approaches to

meet the goals. They offered a financial incentive. The total programme was backed with \$142m from the donors, and \$54m from local governments. Those countries that met their targets were to receive half of their own disbursement back for unrestricted use within the health services.

In all countries, officials say, there were striking improvements, but not everyone met the targets. Honduras, Nicaragua and El Salvador did. Chiapas, Guatemala and Belize did not. Results are still not available for Costa Rica and Panama. Health authorities found creative ways to meet the tight deadlines. El Salvador, for example, took just four months to grant regulatory approval for distribution of multivitamins to the poor. Women in remote villages in Nicaragua who had given birth to more children than they had wanted—because of the huge distances they needed to travel to obtain contraceptives—nominated one person to be paid a stipend to make the journey on their behalf.

IDB officials, though advocates of "results-based financing", say money was not the only motivator—indeed the cost of the programme was less than 1% of the region's total health spending. National pride was also at stake because countries competed to meet the targets. One called it the "Concacaf of health", after the region's World Cup qualifying tournament.

The health officials of the countries have since met in Panama City to swap ideas. Those whose countries missed the targets can improve their performance and move on with the other countries to a more exacting set of 18-month targets that have fresh incentives. The biggest challenge of all will be to keep the programme going without the billionaires' support. But if the lesson is learned that averages should not be the sole basis for making policy decisions, it will have been a step in the right direction. ■

Bello | The great deceleration

The region's economies have slowed far more abruptly than anyone expected

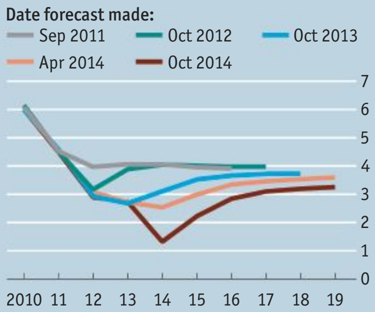
IT WAS great while it lasted. In a golden period from 2003 to 2010 Latin America's economies grew at an annual average rate of close to 5%, wages rose and unemployment fell, more than 50m people were lifted out of poverty and the middle class swelled to more than a third of the population. But now the growth spurt is over. What some worried would be a "new normal" of expansion of 3% a year is turning out to be far worse.

The region's economies will on average grow by only around 1.3% this year. Analysts continue to slash their forecasts, as they have done for the past two years (see chart). They now expect only the mildest of recoveries next year: both the IMF and the World Bank foresee growth of just 2.2% in 2015. Latin America is decelerating faster than much of the rest of the emerging world, points out Augusto de la Torre, the bank's chief economist for the region. Alejandro Werner, his counterpart at the IMF, sees growth averaging just 2.7% over the next five years.

The big dipper

Latin America and the Caribbean

GDP growth forecasts, % increase on a year earlier



Source: IMF

Some of the reasons are obvious. The biggest factor is the end of the commodity boom. As China's growth slackens, commodity prices have slumped back to their lowest levels since the 2009 world recession. Now the oil price has been hit, too, thanks mainly to increased output in the United States. All this has hurt the commodity-producing economies of South America, though some benefit from cheaper oil. The outlook for Mexico, with its structural reforms and manufacturing ties to North America, is slightly brighter.

Worst off are those countries with populist governments that squandered the windfall from the boom. Forecasters see no let-up in the stagflation afflicting Venezuela and Argentina. Thanks to lack of investment and clumsy macroeconomic management, Brazil's economy will barely grow this year and faces a fiscal squeeze in 2015. Yet the deceleration goes far wider. The high-flying and well-run economies of Chile, Peru and Colombia are all suffering. The growth rate this year in Chile (2%) and Peru (around 3%) is half that of 2013. Contrast that with sub-Saharan Africa, which is also a big commodity producer and where the IMF expects growth of 5.1% this year and 5.8% next.

A second oft-cited cause of the Latin doldrums is the move to normal monetary policy in the United States, which will raise the cost of borrowing in the region. But there are few signs of this having an impact yet. Latin American companies are issuing bonds at an accelerating rate.

Some economists now reckon that the boom masked deep-rooted structural problems. Latin America's record in productivity may have been even worse than the data seemed to indicate, says Mr de la Torre. The effect of changes in the terms of trade, and the weight of service businesses and of the informal economy in the region, makes this especially hard to calculate.

Bello has two other hunches. One is that the region's poor education and skills shortage have caught up with it. To watch and wait as staff in shops or at telecoms companies battle with IT equipment that either they don't know how to operate or is frequently out of order is to wonder whether technology is enhancing or undermining productivity. The second is that the failure to invest in public transport means that the region's big cities, clogged with the new cars the boom afforded, reap fewer economies of scale and specialisation, because people find it so difficult to move around.

What does seem clear is that the region is suffering a structural supply-side shock. Many economies have been operating close to capacity, points out Mr Werner. So demand-priming stimulus—such as Brazil's loose fiscal policy or Peru's recent giveaway of an extra bonus to public employees—looks mistaken. Fiscal balances have weakened by an average of three points of GDP since the 2009 recession.

Nevertheless, low debt, stronger banks and more reserves permit looser monetary policy in some places. Many Latin currencies are depreciating, without prompting the panic of the past and thus offering the hope of growth in exports besides commodities (though it is unclear how many companies may find it harder to repay their foreign bonds). With borrowing costs still low, now is the time for these countries to step up investment in infrastructure.

Such investments, like much-needed efforts to improve education and training, take years to bear fruit. The problem is that Latin America's leaders confront a mobilised population that has grown used to the good times. This calls for politically deft statesmanship. Where it is absent, Latin America may become more combustible in the next few years.

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Japanese politics

Taking up arms

TOKYO

Shinzo Abe is preparing to do battle in a snap general election. But the bigger struggle will be over economic reform

THE announcement on November 18th by Shinzo Abe, Japan's prime minister, that he was calling a snap general election was made to sound a bold one. The poll would in effect be a referendum on postponing a planned second rise in the consumption tax, Mr Abe declared—as if to show that he was defying his country's fiscal hawks. He also urged citizens to use their vote to show what they thought of his reform policies, commonly known as Abenomics, which he has presented as Japan's only means of ending years of stagnation.

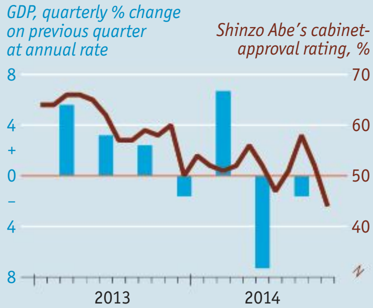
It was stirring rhetoric, yet in reality there is little call for an election just now—and little risk of Mr Abe being defeated. After the surprise news a day earlier that Japan had slipped into a technical recession over the summer, not even opposition parties now oppose delaying the tax increase. The elections will reconstitute the lower house of Japan's parliament, the Diet. But Mr Abe's government already wields a powerful majority in both houses that is guaranteed until 2016.

The newly published data showed that GDP had shrunk by 1.6% on an annualised basis in the third quarter (see chart). This followed a contraction of 7.3% in the second quarter that many blamed on an initial rise in the consumption (value-added) tax, from 5% to 8%, in April. That made it easy for Mr Abe to delay the next tax hike until April 2017, when nothing short of a full-blown financial crisis, he pledged, would prevent a further rise—vital, as the fiscal conservatives see it, to repairing Japan's parlous public finances.

Many politicians are ill-prepared for the rapid-fire campaign due to unfold after December 2nd, the official start. MPs were not expecting a snap election until next summer, after a series of local polls in the spring. The news of recession certainly makes it tricky to produce a slick campaign message about Abenomics. The government had been expecting growth of around 1% in the third quarter. Politicians could then have asserted that the economy had pulled clear of the gloom that followed the first consumption-tax rise. As it is, many MPs are unsure about what to tell their local vote-winning organisations, known as *koenkai*, says Kotaro Tamura, a political lobbyist and former legislator in Mr Abe's Liberal Democratic Party (LDP). The implication that the economy is too weak to stand up to a second consumption-tax rise even a year from now would appear to signal that Abenomics is failing.

Shabbynomics

Japanese economic and political indicators



Sources: Cabinet office; NHK

Hence the immediate reaction to the news of a snap poll was one of bemusement. The public at large, as well as many in the LDP, are united in asking: why now? Polls show that there is little appetite for an election. In some constituencies LDP officials are even grumbling publicly. In Gifu prefecture, in central Japan, a party chapter adopted a formal resolution to oppose holding a national poll. It urged the government to dedicate itself to economic recovery instead of risking a political vacuum.

Mr Abe already has strong backing for delaying the tax increase, but his election may have other uses. Many Japanese hope that if he emerges, as expected, with a renewed mandate, extended for another four years, he may at last muster the courage to get on with badly needed reforms to the labour market and to Japan's agriculture. In addition, the LDP has an asset: it can count on the opposition's disarray.

Since its humbling defeat in 2012, the biggest group, the Democratic Party of Japan (DPJ), has struggled to find candidates foolhardy enough to stand against the LDP in the countryside. Its support has dwindled to under 10%. You might expect the DPJ to co-operate with Ishin no To (Japan Innovation Party), the next biggest in opposition. Yet Ishin no To's more right-leaning leader, Toru Hashimoto, is resisting.

Voters' lack of enthusiasm may not harm the LDP and its coalition partner, Komeito. Their powerful get-out-the-vote machines in December 2012 earned them 325 seats out of 480 in the lower house, giving the government a majority of 67%, even though they won fewer votes in total than in 2009, when the DPJ pulled off a landslide. Since Mr Abe's popularity has been falling in recent months, the LDP will probably lose some of that huge haul, particularly from the proportional-representation ▸▸

slice of the vote, which elects 180 members. Yet if Mr Abe can limit the losses to fewer than 40 seats he will keep a satisfactory majority.

A strong result would help to strengthen Mr Abe's position within his own party, says Kozo Yamamoto, an LDP politician who helped design Mr Abe's economic strategy last year. This would strengthen his hand in shaking up his cabinet, which has been battered by scandals and resignations since a reshuffle in September.

But there is still a risk that opponents of Abenomics could muster enough strength to weaken Mr Abe. The loss of an election for the governorship of Okinawa on November 16th, though chiefly the result of local opposition to the American army's outsized presence on the island chain, showed that the LDP is vulnerable.

For those hoping that a strong election result might re-energise Mr Abe's reform agenda, it was dispiriting that he made little direct mention of reforms this week. But this may have been tactical: it might repel rural voters, for example, if he were to emphasise the need for progress in negotiations with America and other important trading partners over the formation of the Trans-Pacific Partnership, a free-trade grouping. Farmers worry that their livelihoods would suffer from the pact. A series of reform bills, including one dedicated to women's empowerment in the economy (a cherished project of Mr Abe's and one where much has been accomplished) now face deletion from the legislative calendar because of the looming poll.

Yet in delaying the consumption-tax rise against the wishes of the powerful finance ministry Mr Abe has shown that he can face down bureaucrats. It is inside the ministries and the LDP that he encounters the most entrenched resistance to his efforts at reform. His advisers are privately making comparisons to the decision in 2005 by a predecessor, Junichiro Koizumi, to call a snap election to seek backing for privatising the postal service. Nothing as yet suggests that December's election will bring Mr Abe quite the mandate that Mr Koizumi won. But it would make little sense for Mr Abe to seek re-endorsement by voters unless he had a grand purpose. ■

Energy prices in Indonesia

Fuel's errand

MUNCAR, BANYUWANGI REGENCY

Jokowi trims Indonesia's inefficient but popular petrol subsidies

WHEN Joko Widodo, Indonesia's president, who is generally known as Jokowi, announced that petrol and diesel prices would rise by 2,000 rupiah ($0.16) per litre on November 18th, Hajji Zaenal and the world's financial markets had opposite reactions. Mr Zaenal, who fishes for tuna and bonefish off the coast of east Java, was glum and worried. Overnight the price of filling up his 1,000-litre tank had risen by 2m rupiah.

The markets, on the other hand, were elated. Indonesia's fuel subsidies are wasteful, expensive and poorly targeted—benefits overwhelmingly accrue to the country's middle and upper classes, rather than the car-less poor. Between 2009 and 2013 Indonesia spent more on fuel subsidies (over 714 trillion rupiah) than it did on infrastructure and social-welfare programmes combined. Subsidies threatened to eat up more than 10% of total government spending next year, imperilling the country's ability to pay for the ambitious and necessary health-care, education and infrastructure programmes that Jokowi promised in his election campaign. The price rise, modest though it may be, is forecast to save the government roughly 120 trillion rupiah next year.

The day after Jokowi's announcement Indonesian stocks rose, as did the rupiah against the dollar. Indonesian sovereign-bond yields tumbled. That was not just because of the budgetary impact of this decision, sizeable though it is. The increase also showed that Jokowi had the stomach to take politically risky but economically necessary decisions—an all-too-rare trait among Indonesian politicians, and a necessary one for a president with reformist ambitions.

Fuel subsidies are popular (seemingly free money usually is), and politicians cut them at their peril. Jokowi's predecessor, Susilo Bambang Yudhoyono, raised fuel prices in 2013. He was greeted with street protests that were tumultuous enough that when Jokowi asked him to raise prices again as he was leaving office, he demurred.

Jokowi's announcement also sparked anger—protests, largely peaceful, broke out in cities across Indonesia, and public-bus and minivan drivers threatened to strike—but was not a surprise. Trimming the subsidies was a campaign promise. Last week his energy minister said there would be an announcement soon after the new president returned from the G20 summit in Brisbane, which ended on November 16th (see next page). His finance minister, Bambang Brodjonegro, said in Brisbane that the rise would be no more than 3,000 rupiah per litre; pegging the increase at 2,000 may have removed some of the political sting. Subsidised petrol now costs 8,500 rupiah per litre—not far off the price of higher-octane, unsubsidised petrol which, thanks to low oil prices, is selling for as low as 10,200 rupiah per litre.

Another reason markets rejoiced was the swift action of Indonesia's central bank. To limit the inflation likely to result from Jokowi's action, the bank raised its policy rate to 7.75% on November 18th, the first such increase in more than a year. The bank said it expected inflation to reach 8% by the year's end, well above today's rate of 5%. Despite the protests, Indonesians seemed largely resigned to higher prices. Even Mr Zaenal said he understood why fuel had to cost more, though now he says that he wishes the government could set the market price of fish. ■

Queuing for the last of the cheap stuff

Australia and global warming

Stranded

BRISBANE

Tony Abbott woos China and India as America rebuffs his climate policy

A HEATWAVE hovered over Brisbane, the state capital of Queensland, as world leaders gathered on November 15th for a Group of 20 (G20) summit, the biggest such meeting Australia has hosted. Tony Abbott, the prime minister, had hoped to limit their talks to topics that chimed with his domestic political agenda: growth and jobs. Barack Obama, America's president, had other ideas. On his way to the talks, Mr Obama delivered a speech to cheering students at the University of Queensland, calling on Australia to do more to tackle climate change. To rub his message in, Mr Obama worried about the "incredible natural glory of the Great Barrier Reef", off the coast of Queensland, which is threatened by global warming.

The president's speech was carefully calculated. Three days earlier, Mr Obama had struck a deal with Xi Jinping, China's president, at another summit in Beijing, in which the world's two biggest emitters of carbon set targets to lower their outputs of greenhouse gases. The deal apparently caught Mr Abbott by surprise. He had wanted to limit the G20's climate commitments to a line about energy efficiency. But climate change dominated the Brisbane summit in the wake of Mr Obama's proclamation that "here in the Asia Pacific, nobody has more at stake". Few can recall such a sharp public rebuke from Australia's main strategic ally.

Australia is responsible for about 1.5% of global carbon emissions; measured by its output per person, it is one of the highest polluters. Yet Mr Abbott has staked his political career on a combative approach to climate action. As opposition leader four years ago, he unseated his predecessor as leader of the conservative Liberal Party over a deal with the then Labor government for an emissions-trading scheme; that deal sank. Mr Abbott won power last year after waging a scare campaign against a carbon tax Labor had introduced instead; his government has since abolished it. Mr Abbott argued in Brisbane that climate talks should happen elsewhere, not at meetings of the G20.

But the summit's climate pledges left Australia isolated. Mr Obama pointedly used his speech in Brisbane to announce a $3 billion contribution to the Green Climate Fund, a UN body to help poor countries deal with climate change. Japan, Germany and Canada also promised money.

Mr Abbott felt in warmer company after Mr Xi and Narendra Modi, India's prime minister, left Brisbane to address Australia's parliament separately in Canberra. As Mr Xi spoke, Australia concluded a free-trade agreement with China. It includes tariff cuts on Australian shipments of coal, demand for which in China has grown rapidly in recent years. India is also a big market. Defiantly, Mr Abbott told the G20 leaders he would be "standing up for coal". But the summitry has left him with difficult choices over Australia's position on global warming as countries prepare for another summit in Paris next year—devoted entirely to the climate. ■

Elections in Taiwan

Political surgery

TAIPEI

Taiwan's ruling party faces a challenge in local polls

THIS year is unlikely to be remembered fondly by Taiwan's president, Ma Ying-jeou. He entered it with opinion polls at record lows. Spring saw students occupying the legislature for more than three weeks in protest against his efforts to forge closer ties with China; thousands took to the streets to back them. Local elections on November 29th are likely to compound his misery. Voters will choose more than 11,100 mayors, town chiefs and councillors. Prospects for Mr Ma's party, the Kuomintang (KMT), look grim.

With presidential elections due in January 2016, the polls will be closely watched. A bad showing for the KMT would be a good presidential omen for the island's main opposition group, the Democratic Progressive Party (DPP), which lost the presidency to Mr Ma six years ago. By then Mr Ma will have served two terms in office, so he will be constitutionally obliged to step down.

The contest for the post of mayor in the capital, Taipei, will be especially important. The city has remained a stronghold of the KMT ever since the party was forced to flee to the island from the mainland in 1949 at the end of the Chinese civil war. The DPP has won in the city only a single time: 20 years ago, when the KMT vote was split by a spin-off party. Now Ko Wen-je (pictured), an eminent surgeon who is without political experience and is running as an independent, is polling higher than Sean Lien, a scion of one of the KMT's richest political families.

The KMT chose Mr Lien as its candidate through a ballot of its members in the capital. But many Taiwanese see him as a privileged princeling. His father, Lien Chan, is a former vice-president who has helped forge closer ties between the KMT and China. The younger Mr Lien decided to enter politics after a lone gunman shot him at an election rally in 2010. Before that he worked in business, including in investment banking—experience, he says, that will help him manage Taipei's economy. But many of Taipei's young people, who were out on the streets in strength during the "sunflower movement" in and around the legislature in spring, resent the business elite. Mr Ko, who is often affectionately called "Ko P" (short for professor), appeals to those Taiwanese who are fed up with bickering between the two main parties. Being a doctor (he is chairman of the traumatology department at National Taiwan University Hospital), not a politician, appears to have helped him.

The DPP decided not to field a candidate in Taipei after the party's polls showed that Mr Ko was more popular within the DPP than any candidate it could field itself. Mr Ko appeals not only to middle-of-the-road voters, but also to some in the DPP who want formal independence for the island. Mr Ko has given support in the past to the DPP but has tried to avoid the question of independence during his campaign.

The ruling party is also lagging behind in the contest for mayor in the central city of Taichung, which it has held since 2001. In addition, it could lose an important mayoralty in Keelung, a northern port, because of a split within its camp there: a candidate ditched by the KMT is running as an independent. Meanwhile DPP candidates in the south, where the opposition is at its strongest, still enjoy comfortable support.

Being local elections, this month's votes are more about housing and city infrastructure than relations with China. But they still hold implications for cross-strait relations. Although the DPP is more accommodating towards China than it was before Mr Ma took office, if it gains a boost, China will look askance at it. ■

Banyan | Ashraf Ghani against the chaos

Afghanistan's new president could be the only man up to an almost impossible job

WHAT would Afghanistan look like now if Ashraf Ghani, not Hamid Karzai, had been the Anglophone Pushtun promoted by America, back in 2001, to lead the country? Afghanistan's new president, a frail figure in white salwar kameez, grins, eyes twinkling, tantalised by the suggestion. "Let's not discuss what we cannot change," he then says, seated, for his first interview as president, in the shoddy grandeur of his palace in Kabul. So let Banyan attempt an answer.

On the basis of his first month in office and, more important, his two years as finance minister in the government of warlords and technocrats formed after the Taliban's fall, Afghanistan would be in much better shape than it is. That is not only because Mr Ghani achieved a lot in a short time, setting up computer systems and a single Treasury account where there had been only paper files and broken chairs. It was also because the former World Banker had a vision for how Afghanistan should seize the great opportunity, including billions in aid money, suddenly afforded it. He promoted road-building, to restore ancient trade-routes. He denounced the regional strongmen sucking up his customs revenue. He was not universally liked. He could seem arrogant and was hot-tempered; many thought him Utopian. But after Mr Ghani left the government in a huff he was badly missed.

Mr Karzai was a disaster. He offended Afghanistan's benefactors and neighbours even as, presiding over corrupt elections and a spreading kleptocracy, he encouraged Afghans to consider their democracy a fraud. Today's strongmen control more than border trade; they have grabbed property in Kabul worth billions of dollars, run a drugs business equal to perhaps 15% of economic output and enjoy blissful impunity—as displayed in the protracted theft of nearly a billion dollars from Kabul Bank. Despite the trillion-dollar cost of Afghanistan's 13-year war and reconstruction, the poverty rate has been static—at around 36%—for years. That is fuel for an insurgency which, even as foreign troops withdraw, ravages the country. Mr Ghani's plans for reforming Afghanistan were always optimistic. They might now seem fanciful.

That is even before considering the weakness of his government, which, after a dispute over the election result, Mr Ghani will preside over with his erstwhile rival and now chief executive, Abdullah Abdullah. "The risks are enormous," he concedes. "Criminal networks pose a major challenge to the functioning of our legal economy, we have no peace, and if we fail, our people could lose several generations." Yet Mr Ghani, who has co-written a thoughtful book on fixing failed states, relishes his task.

Given better government, he believes, most Afghans would embrace the rule of law. To that end he has ordered a retrial of the accused in the Kabul Bank heist: "I'll put them in prison for dozens of years, and never will there be another banking crisis." He has reformed the attorney-general's office and set about appointing new Supreme Court judges. Bigger reforms, including to tax collection and the land registry, will follow. "Most of Kabul is informal, that is, illegal, and people in illegal circumstances are preyed upon. Our aim is not only to clean the government but make people more independent of it."

On travels abroad he has given other clues to his plans. In Saudi Arabia he made plain that, though partly Western-educated and married to a Lebanese Christian—whom, momentously, he thanked in his inauguration speech—he is a Muslim leader. In Beijing he raised access to Afghanistan's mineral resources and the mutual threat of jihadism; both reasons, he suggested, for China to lean on Pakistan to stop succouring the Taliban. Mr Ghani's subsequent visit to Islamabad was a success, however. "The choice for us both is to become the Asian economic roundabout or to sink," he says of his country's enemy. Your columnist wondered how the Pakistanis viewed him. "As a partner and an Afghan nationalist, who's secure in the sovereignty of his country," he says, which is as near as he gets to knocking his predecessor.

Where Mr Karzai called the Taliban his brothers and berated the Western troops who shed much blood, including their own, Mr Ghani has signed a defence pact with America and praised the sacrifices of Western and Afghan soldiers. The Taliban are his foe—yet he promises a fresh push for a negotiated peace. "We need it, we are keen on it, and we will move in this regard."

A merit-based failing state

These are big claims for a man battling to form a government, a deadline for the new cabinet having lapsed as negotiations between Mr Ghani and Mr Abdullah drag on. Mr Ghani retorts that relations between the two men are excellent and that 15 new ministers will be named before a conference of donor countries in London on December 4th. In due course he promises a bigger clear-out—"the government is dysfunctional. We need fresh faces"—and that his appointments will be based on "merit, inclusion, representation and gender." Banyan suggests that leaves open a possibility of one or two villains. "I'm not preparing you for villains! I'm preparing you for a team that can function," he says. "You know there's a complex spatial and social balance, as Lincoln observed back when the population of the USA was 30m, the same as ours."

That was typical Ghani—learned, right-minded and defiant; but also prone to a sort of development gobbledygook that can raise doubts about the feasibility of his plans. Perhaps it will turn out he never was the right man to lead Afghanistan. He is still irascible. Yet the cautious, court politics many of his critics advocated was exemplified by Mr Karzai. In his analysis of Afghanistan's problems and the likeliest solutions, moreover, Mr Ghani has the advantage of being right. That is why Afghans, the subject of all manner of half-baked experiments, are right to be hopeful. In his second coming, Mr Ghani could again leave Afghanistan looking much better than when he found it. ■

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Higher education

A matter of honours

BEIJING

China is trying to reverse its brain drain

FINE porcelain, Chinese-landscape scrolls and calligraphy adorn the office of Shi Yigong, dean of the School of Life Sciences at Tsinghua University in Beijing. Little about his ornamentation hints at Mr Shi's 18 years in America, where, like thousands of Chinese students, he decamped for graduate study in the early 1990s. Mr Shi eventually became a professor at Princeton University but he began to feel like a "bystander" as his native country started to prosper. In 2008, at the age of 40, he returned to his homeland. He was one of the most famous Chinese scholars to do so; an emblem for the government's attempts to match its academic achievements to its economic ones.

Sending students abroad has been central to China's efforts to improve its education since the late 1970s, when it began trying to repair the damage wrought by Mao's destruction of the country's academic institutions. More than 3m Chinese have gone overseas to study. Chinese youths make up over a fifth of all international students in higher education in the OECD, a club mostly of rich countries. More than a quarter of them are in America.

Every country sends out students. What makes China different is that most of these bright minds have stayed away. Only a third have come back, according to the Ministry of Education; fewer by some counts. A study this year by a scholar at America's Oak Ridge Institute for Science and Education found that 85% of those who gained their doctorate in America in 2006 were still there in 2011.

To lure experts to Chinese universities, the government has launched a series of schemes since the mid-1990s. These have offered some combination of a one-off bonus of up to 1m yuan ($160,000), promotion, an assured salary and a housing allowance or even a free apartment. Some of the best universities have built homes for academics to rent or buy at a discount. All are promised top-notch facilities. Many campuses, which were once spartan, now have swanky buildings (one of Tsinghua's is pictured above). The programmes have also targeted non-Chinese. A "foreign expert thousand-talent scheme", launched in 2011, has enticed around 200 people. Spending on universities has shot up, too: sixfold in 2001-11. The results have been striking. In 2005-2012 published research articles from higher-education institutions rose by 54%; patents granted went up eightfold.

But most universities still have far to go. Only two Chinese institutions number in the top 100 in the *Times Higher Education* World University Rankings. Shanghai's Jiao Tong University includes only 32 institutions from mainland China among the world's 500 best. The government frets about the failure of a Chinese scholar ever to win a Nobel prize in science (although the country has a laureate for literature and an—unwelcome—winner in 2010 of the Nobel peace prize, Liu Xiaobo, an imprisoned dissident).

Pulling some star scholars back from abroad will not be enough to turn China into an academic giant. Many of those who return do so on a part-time basis. According to David Zweig of the Hong Kong University of Science and Technology, nearly 75% of Chinese nationals who were lured by a "thousand-talent" programme launched in 2008 did not give up tenure elsewhere. Such schemes have often bought reputation rather than better research. They typically target full professors whose more productive, innovative years may already be behind them. (They also favour experts in science, technology and management; the Communist Party is less interested in attracting scholars in more politically controversial fields.)

Chinese universities have great difficulty fostering talent at home. The premium on foreign experience in China has created perverse incentives, says Cao Cong of Nottingham University in Britain. It sends the message to today's best and brightest that they should still spend their most productive years abroad. More than 300,000 students leave each year.

Research inside China is moulded by the heavy hand of the state. Many grants are allocated by administrators who lack expertise in evaluating proposals, rather than by open, competitive peer review. Staff are not encouraged to be sceptical about existing theories, especially those held by senior staff who control resources, says Mr Cao. The result is management by numbers: academics are rewarded for the quantity of their publications instead of quality. This creates incentives to eschew long-term, open-ended exploration. "Sometimes *guanxi* [connections] are all you need" to get promotions and grants, says Tsinghua's Mr Shi, who since returning has recruited Chinese scientists from prestigious universities in America and elsewhere to work in his labs. In science the Communist Party has picked six main spheres of research to fund, including na- ▸▸

notechnology, climate change and stem cells. But letting officials decide on research is a poor recipe for innovation.

Until recently universities routinely hired their own students upon graduating. Many staff did not have doctorates, lecturers were given jobs for life with no motivation to excel and all promotion was internal. Ten years ago, when Peking University tried to replace this system with limited employment contracts and open competition for posts, it faced such resistance from its own staff that it had to shelve its plans.

Today the signs are more encouraging. Some universities are changing the way they recruit and hence finding it easier to attract staff from abroad. At Peking University departments now hire and promote using international evaluation-methods. They advertise jobs and academics apply for promotion and are rewarded according to their achievements.

Departments such as Mr Shi's at Tsinghua have attracted private funding to top up salaries for tenured positions. Assistant professors at some elite institutions are paid as much as $70,000-80,000 a year, up to 80% of which comes from donations. But academic institutions the world over are notoriously slow to reform. China has more than 2,400 universities and research facilities—and so far only a few minds have been changed. ■

Inheritance law

A lack of will power

BEIJING

Inheritance law needs to catch up with economic and social change

IN RECENT weeks China's leaders have been talking up the need to enhance the rule of law. Their aim is to strengthen the Communist Party's grip on power while at the same time ensuring that justice is served more fairly. This may improve the lives of some. Many people complain bitterly that courts often pay more heed to the whims of officials than to the law. But in the realm of death, it is the law itself that is the problem. The country's statutes on inheritance remain little changed from the days when few had any property to bequeath. The rapid emergence in recent years of a large middle-class with complex property claims has been fuelling inheritance disputes. The crudity of the law is making matters worse.

Today's inheritance law was adopted in 1985 when divorce and remarriage were rare and international marriage nearly unknown. Few owned homes, cars or other valuable property. The law does at least grant men and women equal rights to their kin's estates, but otherwise it is based largely on tradition. It is specific when it comes to handing down "forest trees, livestock and poultry" but runs out of steam when it comes to newfangled notions such as intellectual property; never mind domain names and digital photographs. A sweeping reference to "other lawful property" is its unhelpful attempt to cover all eventualities. What counts as property? By whose laws? The statute has no answers.

Modest changes were approved in 2003, but woolly areas remain such as in procedures for registering wills. This has led to rancorous court cases like one that last month attracted much public attention. It involved a disputed will and the embattled surviving family members of a famous calligrapher and his estate worth about 2 billion yuan ($326m).

Since the last revisions to the law, society has kept up its blistering pace of change. The divorce rate has risen in each of the past ten years. In 2009 divorces outnumbered marriages. Thus there are now ex-spouses and stepchildren among those squabbling over estates. China's embrace of globalisation means that some assets (and indeed, clamouring relatives) are located in other countries.

China's one-child policy has sometimes complicated matters. State media reported on a car crash in 2012 in which both parents died several hours before their sole child, a six-year-old girl. She automatically inherited their assets in that short interval but had no legal heir herself, meaning the assets went to the state instead of other kin.

At a meeting in October Chinese leaders expressed support for amending the inheritance law (though a long-mooted plan to introduce an inheritance tax still looks far from being put into force: the middle class does not want that). Yang Lixin of Renmin University in Beijing says that despite this resolve it could still be several years before the law catches up with reality. It is enough to send legal drafters to an early grave. ■

Hong Kong politics

Clearing up

BEIJING AND HONG KONG

Police begin dismantling protesters' barricades, but grievances fester

THE change in tone in Hong Kong newspapers that are sympathetic to the Communist Party says it all. Once hysterical about the territory's pro-democracy protests, their commentators are now smugly dismissive and condescending. The "Occupy" demonstrations had begun "with madness", declared an editorial in *Ta Kung Pao*, one of Hong Kong's staunchest pro-party rags, on November 19th, and were "ending in failure". A few days earlier *Global Times*, a nationalist newspaper in Beijing, had crowed that the protesters had been "forgotten" by the world.

Nearly two months after the use of tear gas by police drew more than 100,000 demonstrators onto the streets and prompted protesters to set up barricaded encampments on several major roads, the authorities are beginning once again to step up pressure, this time with little resistance.

The protesters, now numbering only a few hundred, are demoralised. On November 18th police, enforcing a court order, quietly cleared some of the barricades from in front of an office building near the government's headquarters. They have orders to do the same at other protest sites. It looks like the beginning of the end for the unexpectedly protracted standoff. Protest leaders watched the police without interfering. They still have the support of younger Hong Kong residents, who resent China's refusal to allow free elections for the territory's leader. But many others have tired of the protests. More than four-fifths of respondents in a recent poll wanted the demonstrators to go home.

A handful of protesters chafed at the meek response to the police action. After midnight on November 19th a small group of masked demonstrators tried to ram their way into the offices of the nearby Legislative Council building, using a metal barricade to smash a glass entrance. Police used pepper spray and batons to stop them and arrested six people. The government called them "violent radicals".

But the protesters' three encampments look unlikely to last for much longer. Since the police's counter-productive tear-gas attack on September 28th the government has tried to wait out the "Umbrella Movement", as it was dubbed because of protesters' use of umbrellas to protect themselves. The government hoped that the public would grow impatient with the disruption to traffic and business. The signs are that this strategy is working. ■

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The conflict over Jerusalem

Murder in the synagogue

JERUSALEM

A deadly attack on Jews at prayer raises the stakes in the already turbulent holy city

WORSHIPPERS were back at Kehillat Bnei Torah synagogue in Jerusalem's Har Nof neighbourhood just a day after two young Palestinian men attacked it with knives, axes and a gun. The signs of the assault were apparent: a security guard stood at the door; bullet holes pockmarked the building's stone façade. But it was a far cry from the carnage on November 18th, when emergency workers found victims lying in pools of blood, still wrapped in their prayer shawls, with phylacteries wound around their arms and heads.

Residents said life must go on, even after the murder of four worshippers and a policeman; the two attackers, cousins belonging to an ostensibly leftist Palestinian faction, were shot dead by police. Jerusalem is living its worst days of violence after many years as an island of relative calm amid the violent turmoil in the West Bank and the Gaza Strip.

Nine Israelis have been killed in a rash of stabbings, shootings and hit-and-run attacks in Jerusalem over the past month. Each has brought changes to daily life. In Jewish districts, concrete barriers have been erected to shield commuters standing at light-rail stations. Hundreds of extra police officers have been deployed across the city. Israeli commuters disembark from the light railway before it crosses Palestinian areas, fearing that the train will be attacked with stones and firebombs. At night Palestinian taxi drivers decline to drive into Jewish areas. The violence has also changed life in Palestinian areas of Jerusalem, home to all of the attackers. In Jabal al-Mukaber, where the synagogue attackers lived, bulldozers laid concrete blocks to cut off roads; for the first time in decades, police established checkpoints at the entrances to other districts.

On November 19th Israel blew up the third-floor apartment of Abdel-Rahman al-Shalloudi, who had killed two people on October 22nd by ramming them with a car. It marked a full return to the practice of punitive home demolitions (initiated by the British) that had been mostly halted since 2005, when the army concluded they had little deterrent value. Israel also declined to release the bodies of the synagogue attackers to their families.

None of this has stanched the violence, nor reassured Jerusalem's jittery residents. The unrest in the city started in July, after the murder of a Palestinian teenager burned alive in an act of revenge for the killing of three Jewish seminary students in the occupied West Bank. Large-scale riots followed for a week, and smaller clashes have continued almost every night since. More than 1,300 people have been arrested, many of them children. Such turmoil has become a growing liability for the Israeli prime minister, Binyamin Netanyahu, who has made security the centrepiece of his tenure. His allies in government have blamed many groups for inciting the violence—Hamas, Islamic Jihad, even European diplomats—but it is the Palestinian president, Mahmoud Abbas, on whom the vitriol is now concentrated.

Mr Abbas condemned the synagogue attack, reportedly under pressure from America, but his statement also urged Israel to halt its "provocations" at the Haram al-Sharif, the "Noble Sanctuary", the third-holiest place in Islam, built atop the ruins of the former Jewish temple. Jews pray at the base of the complex, before the Western Wall. But a growing number of activists, among them politicians, want to have the right to pray on the Haram (some hope to rebuild the temple there). Last month a Palestinian shot and wounded a leading temple campaigner, Yehuda Glick.

Mr Netanyahu has said, ever more firmly, that he will not change the status quo, a message he repeated in an Arabic-language video. Palestinians do not trust him, though, and the call to defend the Muslim holy places has featured in the propaganda of Hamas, an Islamist movement, and other groups. Mr Abbas has followed, issuing warnings that Israel risked sparking a "religious war." Hence the charge of incitement: Mr Netanyahu said the synagogue attack was a "direct result" of Mr Abbas's words, though the charge was apparently contested by the head of the Shin Bet intelligence service.

Yet Mr Abbas has little influence in Jerusalem, a city he cannot visit without Israeli permission. Its Palestinian residents, living in worse conditions than their Israeli neighbours, scarcely look to him for guidance; on the contrary, many feel Mr Abbas has been too pliant and is concerned only with his fief in the West Bank. Last summer, when his prime minister, Rami Hamdallah, paid a condolence visit to the family of the teenager killed by Jewish extremists, neighbours heckled his motorcade. Just as worrying as the rising bloodshed is the fact that the attacks do not seem to be directed by anyone. ■

The war against Islamic State

Gaining more foes than friends

CAIRO

The tide may slowly be turning against the jihadists in Iraq and Syria

THERE is no cause yet for cheer, but for the first time since last summer's blitzkrieg by Islamic State (IS) the news from Iraq and Syria has been less than uniformly grim. General Martin Dempsey, America's chairman of the joint chiefs of staff, on November 15th told American troops in Iraq that the battle is "starting to turn"—though it will take time to defeat the jihadists. The UN's envoy for Iraq, Nickolay Mladenov, assured the Security Council that the strategy of enlisting local forces was showing signs of progress. "We're not looking at the collapse of the Iraqi state," he said. "We've turned the tide."

After months of setbacks the wobbly American-led coalition battling IS has halted the group's momentum and begun to seize the initiative. Relentless air attacks have depleted the group's arsenals, reduced its mobility and reportedly killed several of its senior commanders. The coalition's campaign has grown in scope and sophistication. A single raid on November 19th, targeting a complex of IS fortifications north-west of Kirkuk, involved aircraft from seven countries.

There is movement on the ground, too. On November 14th Iraqi government forces scored their most hopeful battlefield advance to date: the recapture of the giant oil refinery at Baiji, a town along the Tigris river between the Iraqi capital, Baghdad, and its rebel-held second city, Mosul. The success not only returned a big economic asset to government hands, but also severed the link between a pocket of IS forces in Tikrit and a larger zone under its sway to the north. Kurdish and Iraqi government forces and allied militias are said to be poised for an offensive from the east into this area. Tikrit, largely abandoned by its people, may not stay long in IS hands.

Iraq's internal politics may also be less poisonous than before. Unlike its narrow-mindedly pro-Shia predecessor, the government of Haider al-Abadi has made an effort to win over the minority Sunnis, whose anger at being marginalised fuelled IS's rise. It has also acted to heal rifts with the Kurds' autonomous region, transferring an initial $500m tranche of federal funds that had been withheld by Baghdad in protest against Kurdish efforts to exploit their own oil resources. This improving political climate should foster closer military co-operation between the Kurds and the central government, and raises the chance that more Sunni tribes can be coaxed onto the government's side in a repeat of America's belated but ultimately successful effort to subdue restless Sunni regions during its occupation of Iraq.

Coalition bombing in Syria, meanwhile, has sharply reduced the flow of contraband oil, a big source of IS funding. It has also halted IS's two-month-long offensive against the Kurdish-controlled town of Kobane (also known as Ayn al-Arab). Local Syrian Kurdish forces, now reinforced by other Syrian rebels and Peshmerga troops supplied by Iraqi Kurdistan, are slowly pushing IS fighters out of the besieged city. The jihadists have paid a heavy price. On November 16th the Syrian Observatory for Human Rights, a British-based monitoring group, put IS losses at over 700 dead and the Kurds' at fewer than 400.

That said, while a winning strategy in Iraq seems to be in sight, the same is not true of Syria, where there are few ground forces to take on IS. The policy of focusing only on IS (and at times on another jihadist group, Jabhat al-Nusra), while leaving President Bashar Assad undisturbed, risks weakening mainstream rebels and causing a dangerous Sunni backlash.

For now, faced with worsening odds in battle, IS has responded with more intense propaganda. Countering rumours that he had been injured or killed, the IS "caliph", Abu Bakr al-Baghdadi, vowed on November 13th in a rare recorded speech that his men would fight to the death. A later IS propaganda video showcased the group's gore, including carefully choreographed slow-motion close-ups of the beheading of 18 captured Syrian air force officers (see picture, above) and the purportedly severed head of an American ex-soldier turned aid worker, Peter Kassig. IS's unflinching killers included several Western recruits.

The videos sought to project terror by suggesting the widening reach of IS. "We will begin to slaughter your people on your streets," warned a masked fighter in one scene; a map in another showed IS's black flag unfurling across the region to the sound of recordings by Islamist rebel leaders in Algeria, Egypt, Libya and elsewhere, declaring allegiance to the caliphate. Mr Baghdadi stressed his mission's pan-Islamic nature by calling on Sunnis in Yemen and in "the Land of the Sanctuaries", ie, Saudi Arabia, to kill Shias in their midst.

Such savage fanaticism may have a limited audience. Masked gunmen, probably inspired by similar views, did in fact kill five Shia worshippers in Saudi Arabia on November 4th. But the attack, as well as IS's own actions, has generated public revulsion rather than admiration. Fear of IS has also spurred Gulf states on November 16th to end a bitter dispute between Qatar and its neighbours over the small emirate's alleged support for Islamist groups. Whatever its claims, IS is generating enemies faster than friends. ■

The status of Zanzibar

Imperfect union

DAR ES SALAAM

Tanzania's constitutional crisis

IN APRIL Tanzanians celebrated the 50th anniversary of the union between mainland Tanganyika and the islands of Zanzibar. In honour of the occasion, the East African nation came together to rewrite its 1977 constitution. But instead of strengthening the union, the process may be tearing it apart.

A draft based on public consultations was rewritten by a constitutional assem- ▸▸

bly dominated by members of the ruling Party of the Revolution (CCM). Opposition parties abandoned the process amid allegations of intimidation and abuse.

Their protest was dealt with harshly: opposition members have been arrested and the leader of the main opposition party, Chadema, was summoned for questioning by police.

At the centre of the dispute is Zanzibar's desire for greater autonomy. At the moment Zanzibar has its own semi-autonomous government, but many islanders feel that the mainland still wields far too much power. The Constitutional Review Commission, which held public consultations and wrote a working draft of the new constitution, found that at least 60% of Zanzibaris were unhappy with the terms of the union. It proposed more autonomy.

Rather than the two-tier status quo, the commission proposed implementing a three-tier structure with semi-autonomous governments for both mainland Tanganyika and Zanzibar, and an overarching Tanzanian government.

The ruling party argued this would lead to increased demands for Zanzibari independence and the eventual dissolution of the union. Critics claim that CCM is opposed to the new structure because it would make it more difficult for it to retain power.

The dust-up over Zanzibar has overshadowed a number of improvements to the constitution, in the areas of human rights and gender equality. However, critics say that not enough has been done to limit the president's powers. Provisions for a limited tenure for members of parliament, mechanisms for recall, elections and an independent public service commission—which had all been suggested by the review commission—failed to make it into the final draft. ■

Nigeria's film industry

Selling BlackBerry Babes

LAGOS

Internet streaming, a threat to many film-makers, may save Nollywood

VENDORS snake their way between cars in the Lagos traffic, hawking the latest Nollywood DVDs to tired drivers. Nigeria's film industry churns out up to 50 titles a week. Most go straight to DVD to be sold on the streets for the equivalent of a couple of dollars. But the market can be slow. Taiwo, a hawker in the commercial capital, says that on a good day he might sell five films. "When it's quiet, maybe two."

Nollywood is a big business—contributing 1.2% to Nigeria's gross domestic product and employing more than a million people—but the distribution of its films poses a barrier to the industry's growth. Sales of DVDs account for more than 90% of revenue but film-makers complain that poor regulation of street markets leaves them open to piracy. That, combined with often low sales volumes, means that little cash reaches their pockets.

Full stream ahead

The saving grace is that most of Nollywood's output is shot on a minuscule budget. Nollywood productions, including series such as "BlackBerry Babes" (pictured) or "Lekki Wives", are often filmed in just ten days and cost some $40,000, yielding notoriously low-end content. "Making money is tough, especially for film-makers who are increasing the budget, paying more attention to the quality, and making movies that can travel," says Obi Emelonye, a director. "Distribution is hands-down the biggest problem...Solve that, and Nollywood will explode."

Across the world, the film industry has been threatened by online distribution, which leads to plummeting DVD sales, falling cinema attendance and internet piracy. But Nollywood is hopeful that the internet could be the answer, not the problem.

Streaming services have been operating in Nigeria for several years, but are only now beginning to gather momentum. The biggest of those is iROKOtv, which has made some 5,000 titles available to online audiences. Others such as Pana TV, which secured the rights to stream "Half of a Yellow Sun", a film based on a Nigerian novel, and iBAKATV are expanding fast.

Jason Njoku, the British-Nigerian founder of iROKO, said that when he first started buying streaming rights from Nigerian film-makers four years ago, the industry had almost no concept of online distribution. "It was almost like I'd come from the future," he says. Today online portals are a crucial source of cash. iROKO, for instance, pays between $8,000 and $25,000 per film for a set period of time. Film directors like Mr Emelonye often sell to several online platforms. Going online has "absolutely" made business more profitable, he said.

It is also giving film-makers the chance to export their art. iROKO has more viewers in London today than in Nigeria. Caribbean and Latin American audiences also lap up Nollywood films. Witnessing the appetite for such content among diaspora communities, Africa Magic, a pay-TV channel airing African movies and soaps, has also launched a streaming service for Africans living abroad.

So far, video-on-demand services have struggled to create much of a market at home, where power is intermittent and the vast majority of the population does not have access to a computer. Streaming to the 100m smartphones in sub-Saharan Africa is a mouth-watering prospect.

Most DVD vendors do not yet feel a threat from streaming services. But even the hawker Taiwo admits to watching Nollywood online. As internet access rises, directors are hoping that new distribution avenues will unleash the potential of Nigeria's film industry. It is a gamble, Mr Emelonye said. "But we have to take a risk." ■

Defence spending

Arms and the African

GOMBE AND KAMPALA

The continent's armies are going on a spending spree

THE north-eastern Nigerian town of Chibok is spared little. Earlier this year fighters from the extremist group, Boko Haram, abducted more than 200 local schoolgirls. In the past week insurgents and government troops have traded possession of urban districts and surrounding farmland, leaving much of it burnt.

The Nigerian army, one of the biggest in Africa, should have little difficulty scattering the amateur jihadists. But its arsenal is decrepit and its troops poorly trained. Hence the government's decision to spend $1 billion on new aircraft and training, among other things. Critics question how much will go towards appropriate kit (never mind how much gets stolen by corrupt generals) and whether it is sensible to lavish resources on a force implicated in atrocities and human-rights abuses.

These questions resonate across Africa. Last year military spending there grew by 8.3%, according to the Stockholm International Peace Research Institute (SIPRI), faster than in other parts of the world (see

chart). Two out of three African countries have substantially increased military spending over the past decade; the continent as a whole raised military expenditure by 65%, after it had stagnated for the previous 15 years.

Angola's defence budget increased by more than one-third in 2013, to $6 billion, overtaking South Africa as the biggest spender in sub-Saharan Africa. Other countries with rocketing defence budgets include Burkina Faso, Ghana, Namibia, Tanzania, Zambia and Zimbabwe. The continent's biggest spender by far is Algeria, at $10 billion.

"Some countries are buying really amazing stuff," says David Shinn, a former American diplomat, now a professor at George Washington University. Ethiopia last year took delivery of the first of about 200 Ukrainian T-72 tanks. Neighbouring South Sudan has bought about half as many. Coastal states such as Cameroon, Mozambique, Senegal and Tanzania are sprucing up their navies. Angola has even looked at buying a used aircraft-carrier from Spain or Italy.

Chad and Uganda are buying MiG and Sukhoi fighter jets. Cameroon and Ghana are importing transport planes to boost their ability to move troops around and deploy them abroad, which they have been ill-equipped to do. For peacekeeping duties they generally ask friendly Western governments for help in airlifting troops, or charter civilian planes.

Despite such handicaps, many are participating in a growing number of African Union and UN peacekeeping missions. Once rarely seen in blue helmets, sub-Saharan soldiers are increasingly replacing troops from Europe and Asia. Ethiopians and Rwandans have acquired a reputation as reliable peacekeepers, all the while benefiting from training as well as from reimbursements for purchases of weapons. A new "business model" for African defence ministries is taking shape.

Many African armies are becoming more professional, too. Their troops are more often paid on time, get decent food and go on regular leave, all of which boosts morale and discipline. "Even small countries like Benin and Djibouti now field respectable forces," says Alex Vines of Chatham House, a think-tank in London.

A big issue is whether troops have enough training to handle sophisticated new gear. Chad makes good use of its Sukhoi SU-25 jets—with the help of mercenaries. On the other hand, Congo-Brazzaville only manages to get its Mirage fighter jets into the air for national-day celebrations. South Africa bought 26 Gripen combat aircraft from Sweden but has mothballed half of them because of budget cuts. Uganda spent hundreds of millions of dollars on Sukhoi SU-30 combat aircraft but little on the precision weapons to go with them.

The reasons for African governments to boost arms spending vary. High commodity prices over the past decade (they are now falling) have filled the coffers of many. Some leaders have been tempted to buy expensive arms to gain prestige. Other are suspected of inflating deals to siphon off money for themselves.

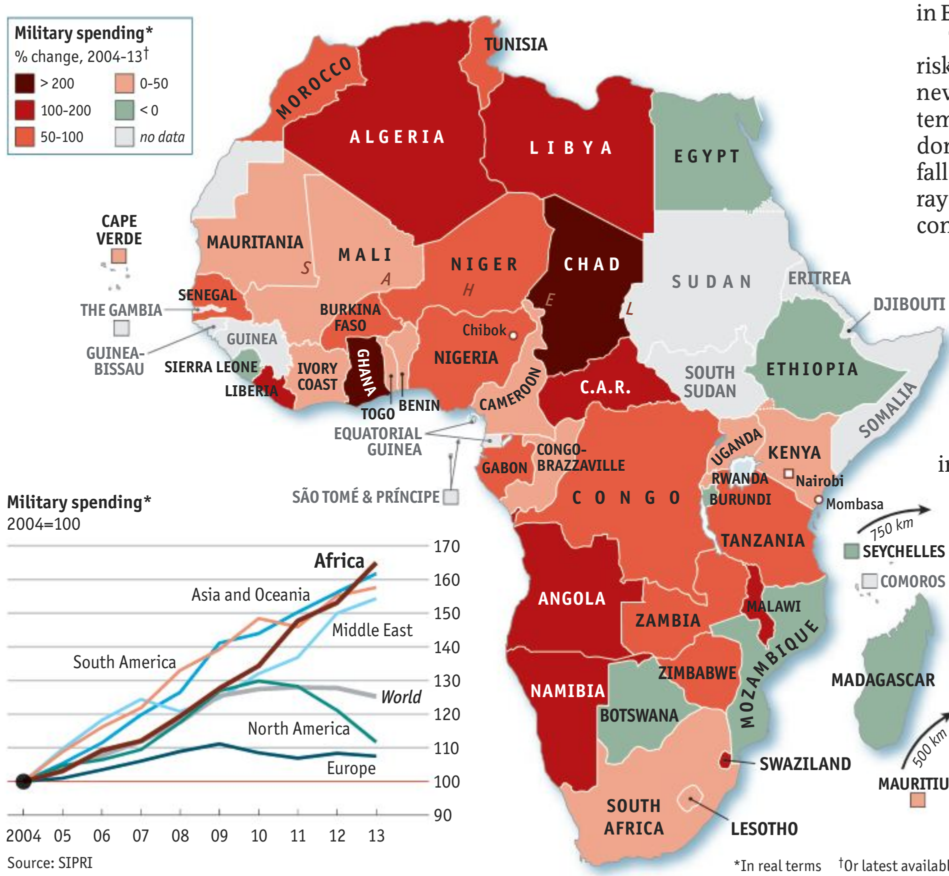
Tanks for everything

But some spending is prompted by genuine security threats. The Sahel and parts of east Africa face a range of extreme jihadists. Coastal states have seen piracy soar, most recently in the west. Offshore discoveries of oil and gas have increased the need for maritime security. More traditional threats, internal as well as external, persist in countries such as South Sudan, where the government is fighting rebels while also facing a hostile northern neighbour.

Industrial ambition also plays a part. A number of countries hope to foster defence manufacturing at home. A huge South African purchase of arms from, among others, Germany and Britain, agreed to more than a decade ago, included promises of "offsets" whereby local firms would help assemble jets and ships. Angola plans to build its own warships. Nigeria and Sudan make ammunition. Four European arms manufacturers set up African subsidiaries this year: Antonov is going into Sudan; Eurocopter is in Kenya's capital, Nairobi; Fincantieri, an Italian shipbuilder, is in the country's main port, Mombasa; and Saab is setting up a plant for its military aircraft in Botswana.

These military improvements carry risks. Ambitious officers may misinterpret new might for political right—and may be tempted to seize power, as many have done before. Sophisticated arms may also fall into the wrong hands; witness the array of Libyan weapons that have fuelled conflicts across Africa, from Mali to the Central African Republic, since the fall of Muammar Qaddafi.

These structural changes to African armies may gradually alter the type of war that could be fought on the continent. Since the anti-colonial guerrilla wars of the past century, most African conflicts have been internal. Few countries previously had the ability, let alone the inclination, to fight their neighbours. In the late 1990s, several countries, including Angola and Zimbabwe, sent forces to take part in Congo's civil war—to little avail. Ethiopia and Eritrea fought each other in 1998-2000. Tanzania sent its army into Uganda, along with guerrillas returning from exile, to overthrow Idi Amin in 1978. In general, however, few disputes between African countries have been liable to spark wars. But the build-up of beefier armies is bound to carry a risk. ■



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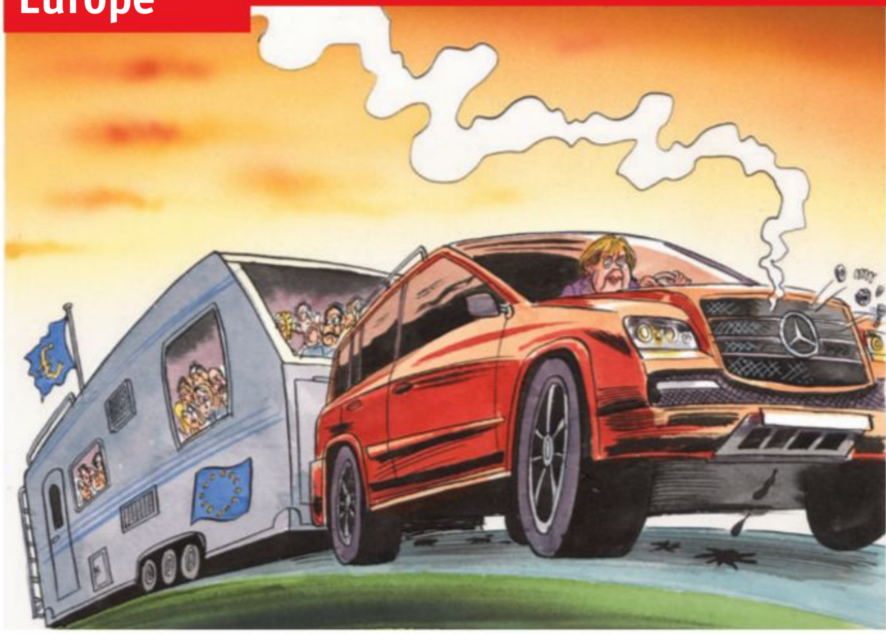

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Germany's economy

The sputtering engine

BERLIN

Is Germany's economy getting too weak to pull Europe out of its crisis?

"THE world cannot afford a European lost decade," says Jacob Lew, America's treasury secretary. The latest European figures were uninspiring. In the third quarter the euro zone grew by just 0.6% at an annualised rate. This sluggishness was not primarily due to the countries hit hardest by the crisis—Greece's economy grew faster than any other euro-zone country (see page 68), and Spain and Ireland are recovering. Rather, it is the core countries that are exhausted—and few more so than the biggest, Germany. It grew by just 0.1% in the third quarter, after contracting by the same amount in the previous three months.

Angela Merkel, the German chancellor, has been subject to a rising chorus of foreign criticism. Germany should do more to stimulate domestic consumption and investment, goes the refrain. This would help countries like France and Italy as they undergo tough structural reforms. Higher imports would also reduce Germany's current-account surplus, the largest in the world and a cause of imbalances within Europe and beyond. Stimulating demand would push up prices, which could save the euro zone from tipping into deflation. Prices in the zone rose at an annualised 0.4% in October, far below the 2% ceiling set by the European Central Bank (ECB).

Such demands are echoed by some at home. Marcel Fratzscher, an adviser to Sigmar Gabriel, the economics minister, says that Germany should boost investment for its own good. Much of Germany's recent success, he argues, has been an "illusion" bought by underinvestment in everything from roads to education to factories. Wolfgang Schäuble, the finance minister, has responded by pledging an extra €10 billion ($12.5 billion) in investment by the federal government over three years from 2016, on top of €5 billion already earmarked for roads and bridges. Yet at barely 0.1% of GDP, that is more symbolic than substantial. And it will not raise the budget deficit because Mr Schäuble's top priority remains the "black zero": balancing the budget from 2015.

Christoph Schmidt, chairman of the council of economic experts that advises the government, suggests that "the black zero should not be a fetish". Germany's municipal governments, not the federal one, should be the ones to raise public investment. But the bigger problem, he thinks, is that private investment is too low. In a free-market economy such as Germany's, the government cannot command firms to invest more at home than abroad. If businesses have chosen another course, he says, it must be because, for whatever reasons, they find Germany an unrewarding place for investment.

As it may indeed be, Mr Schmidt's council of five sages scolded Mrs Merkel's government this month. Businesses worry about its largesse in public pensions, which defies Germany's mix of an ageing population and shrinking workforce. Her coalition with the centre-left Social Democrats is raising pensions for mothers and letting people retire as young as 63 if they have worked for long enough.

Entrepreneurs also fret about the new minimum wage, due to take effect in January at the relatively high level of €8.50 an hour. Contrary to hopes that this might boost domestic demand, says Mr Schmidt, some workers will simply lose their jobs. Moreover, those whose pay goes up will then claim less in welfare top-ups, so they will not have much extra income to spend. A further misstep, Mr Schmidt believes, is a muddled energy policy—subsidising solar and wind power and phasing out nuclear—that is merely raising companies' energy costs. And yet another is a law to cap rising rents, which is likely just to discourage the building of new properties.

The differences between foreign economists who want more stimulus and German ones who think the problems lie elsewhere partly reflect diverging philosophies. Anglo-Saxon economists assess the problems of Europe and Germany ▸▸

Down, up, down again

GDP, % change on a year earlier

Sources: Eurostat; Haver Analytics

in terms of insufficient demand. Most German economists do not. "We don't have a Keynesian crisis in Europe, so Keynesian measures won't work," says Hans-Werner Sinn, boss of the CES-Ifo Institute in Munich. German economists worry more about the conditions, or "order" of the economy, in the tradition of *Ordoliberalism* that disdains state intervention and dates back to an early 20th-century economist, Walter Eucken.

In practice, says Mr Schmidt, the dichotomy is exaggerated. "We don't deny Keynesianism" when appropriate, he says—as it was in 2009, when Germany responded to a demand shock with a hefty stimulus. Demand-side sceptics respond that "Keynesianism is not the answer" when what is most urgently needed is structural reform in crisis-hit countries.

Yet low inflation in Germany is both a sign of weakness and a source of pain for peripheral countries. The ultimate aim of reforms, says Mr Sinn, is to lower prices in the south of the euro zone relative to those in the north, so as to reflect lower productivity. He reckons that would require German inflation of 5% for ten years, or a similar level of deflation in the south, or some combination of the two.

Progress towards that goal is slow. The economics think-tank of the Hans-Böckler foundation, which is tied to the trade unions, says German wages are growing only slightly faster than the euro-zone average. Unit labour costs in Germany rose by 2.3% in 2013 and 1.7% in the first half of 2014, compared with the euro zone's 1.2% and 0.7%, respectively. At that snail-like pace, Europe may be lucky only to lose a decade. ■

Romania's presidential election

A commonsense victory

BUCHAREST

A surprise winner may mark a welcome shift to pragmatic policies

AS VICTORY speeches go, it was the least bombastic that Romanians had heard in a long time. "The campaign is over, we made our choice. Now let's get to work. I am very serious and determined," said Klaus Iohannis, the liberal mayor of Sibiu, in Transylvania. He is the first Romanian from the country's ethnic German Protestant minority to be elected president. That is quite a shock for such a conservative, majority-Orthodox country.

That Mr Iohannis won on November 16th was thanks largely to a turnout of 62%, the highest in 14 years. This reflected a protest vote against Victor Ponta, the Socialist prime minister who was the front-runner in all the opinion polls and ran a fiercely nationalist campaign. Another factor was the sight of thousands of Romanians abroad (mainly Iohannis voters) queuing for hours at overcrowded embassies and unable to cast their votes, which encouraged more voters at home. Despite protesters against Mr Ponta claiming electoral fraud, Mr Iohannis emerged as a big winner, with 54.5% of the vote.

Iohannis, a Teutonic winner

"Mr Iohannis's German ethnicity proved an asset not a burden. Germany has not ceased to be admired as a modernising force in this part of Europe," says Tom Gallagher, an Edinburgh-based political analyst. He adds that Mr Iohannis's record in Sibiu eclipses anything that Mr Ponta managed as prime minister. Mr Iohannis promises to "change the way we make politics," with a focus on the rule of law and safeguarding the independence of the judiciary, perceived as vulnerable had Mr Ponta won. He wants to stick to a strongly pro-Western foreign policy, after attempts by Mr Ponta at opening up to China, and to a lesser extent, Russia.

With a general election due only in late 2016, the new president must now work with a Ponta-led government. The first signs are encouraging: Mr Ponta was gracious in defeat. One of the president's promises has already been fulfilled with the withdrawal of a draft bill that would have freed convicted criminals, including high-level politicians jailed for corruption. The Romanian parliament has also lifted the immunity of several MPs under investigation for corruption.

Mr Ponta has vowed to work with Mr Iohannis. He sees no reason to resign. He has told party rebels to "have the wisdom to shut up" and insists that, as long as he has a big parliamentary majority, he will carry on as prime minister. But he has taken a one-week holiday, citing his sadness after losing the presidential election.

"The main goal of these elections has been fulfilled: not to give the entire power to Mr Ponta…what comes next is a cohabitation which is likely to run more smoothly than with the outgoing president, Traian Basescu," says Cristian Ghinea from the Romanian Centre for European Policies, a Bucharest think-tank. He says the most pressing challenge for the government is the budget for 2015, since the figures for this year were massaged to look good for the election. "They managed to hide the budget deficit this time, but they won't be able to do so next year," says Mr Ghinea.

The economy was a big election issue. Mr Iohannis accused Mr Ponta of driving Romania into recession. Mr Ponta riposted with figures from the statistical office (ahead of publication) showing that GDP rose by 1.9% in the third quarter over the previous one. The IMF, whose precautionary loan programme with Romania is due to expire next year, is urging the government to keep a tight lid on spending. In the campaign Mr Ponta promised an increase in pensions next year and accused Mr Iohannis of wanting to slash them. Ironically, it may now fall to him as prime minister to push through more cuts in 2015. ■

Protests in Hungary

Opposing Orban

BUDAPEST

More anti-government protests, but little change from the prime minister

HUNGARIANS are taking to the streets. More than 10,000 gathered outside the parliament in Budapest on November 17th to protest against alleged corruption and the centralisation of power. Similar protests took place in other cities, including Miskolc in the east and Szeged and Pecs in the south. Several hundred Hungarians even gathered in London's Trafalgar Square. The habit is catching: this week also saw big protests in neighbouring Slovakia and in the Czech Republic.

Hungary's protesters were encouraged partly by America's rising criticism of their government. Six Hungarian officials have been banned from entering the United States on suspicion of corruption, a rare rebuff to a NATO ally. American officials refuse to name them, on privacy grounds. However Ildiko Vida, head of the tax authority, told *Magyar Nemzet*, a pro-government newspaper, that she was one. She strongly denies any wrongdoing.

Hungarian officials have asked for more information from the Americans. They reject claims that the country is sliding into authoritarianism. The protests are

Budapest boogie-woogie

proof that Hungary remains a democracy, where people are free to express their opinion as long as they abide by the law, says Antal Rogan, parliamentary leader of the ruling right-wing Fidesz party.

This week's protests followed a bigger one on October 28th, when as many as 100,000 people filled central Budapest to demand the cancellation of an internet tax that they saw as an attack on free speech. The crowds were mostly young, educated and middle class, the sort of people that Fidesz needs to attract. And they forced a rare U-turn by the government, when Viktor Orban, Hungary's prime minister, said the internet tax would be dropped in its current form. Instead he would launch a "national consultation" to consider ways in which to tax online profits.

The latest protesters have a harder task because their demands, including the resignation of the government, are unrealistic. This year Fidesz has won national, local and European elections. As the Organisation for Security and Co-operation in Europe noted, the victories were due in part to the government's tinkering with election rules in its favour. Yet the fractured liberal and left-wing opposition means that the alternative lacks appeal.

Demographic change is also working against the opposition. The Hungarian embassy in London says that around 100,000 Hungarian citizens live in Britain, but the true figure could be higher. Many expatriate Magyars are young, multilingual, educated and entrepreneurial. A good number have left Hungary because they see no future under Fidesz rule.

Mr Orban has long made clear his disdain for liberal norms, never more so than in his speech in Baile Tusnad, Romania, on July 26th when he said that Hungary would remain a democracy, but become an "illiberal state". The European Union has proved unwilling or unable to rein him in. Instead, as the entry-ban row shows, the pressure is mostly coming from America. President Barack Obama recently bracketed Hungary with Egypt and Azerbaijan as countries in which civil society felt intimidated. Concerns are growing inside Fidesz about the wisdom of taking on the world's superpower.

Younger members of Fidesz are critical of the government's policies, says Akos Balogh, of Mandiner.hu, an influential conservative blog. Hungary is losing friends and allies, he adds. It will struggle on the European and world stage if it acts with the arrogance that Fidesz shows at home. ■

France's centre-right

Sarko Redux

PARIS

A former president finds the comeback trail tougher than he expected

TEN years ago this month a dynamic young French politician ran for the leadership of the Gaullist UMP party, and swept into the job after winning 85% of the vote. On November 29th the party will elect a new leader and the same politician, Nicolas Sarkozy, is (one French presidency later) again campaigning for the post. The odds are heavily in his favour. But the contest is not turning out to be quite the landslide he had expected.

When Mr Sarkozy first announced his political comeback, in September, the polls made him the hands-down favourite among party supporters. Neither of his two rivals, Bruno Le Maire and Hervé Mariton, both one-time ministers, had captured the public imagination. The party seemed in need of a strong unifying figure after the in-fighting that followed the resignation of its previous head, Jean-François Copé, amid party-financing irregularities. And Mr Sarkozy still has star appeal.

More than a dozen town-hall meetings around the country later, however, Mr Sarkozy's campaign is not running as smoothly as he might have hoped. In October his popularity among UMP supporters dropped by 13 points from the previous month, to 71%, according to BVA, a pollster. He was overtaken by Alain Juppé, a former prime minister, who is not running for the party leadership but is a rival candidate for the 2017 presidential nomination. Among UMP deputies, Mr Sarkozy's return has not been universally welcomed. "Even if he is elected with 70% of the vote," says one, "it will be a big disappointment for him."

No single moment explains this. Mr Sarkozy was not at his best during a television interview last month. This week he prompted consternation, even among some supporters, by suggesting that he might repeal the law legalising gay marriage. Yet he has put in energetic performances in school gyms and exhibition halls around France, and at times been an incisive critic of President François Hollande's unpopular Socialist government.

Mr Sarkozy's team is still talking up his expected win as a triumph. If he is elected with 60-70% of the vote, this would still be "an enormous victory", Guillaume Peltier, a UMP deputy, insisted this month. The difficulty for Mr Sarkozy is that a less convincing win in 2014 than the one he achieved in 2004 will reflect the tougher battle that he faces on the way to the presidential election. In the fight for the UMP nomination, he is up against two formidable veterans: Mr Juppé, formerly his foreign minister, and François Fillon, who was his prime minister for five years.

Mr Sarkozy has been well served, however, by a recent scandal involving Mr Fillon and Jean-Pierre Jouyet, an old friend of Mr Hollande and the president's chief of staff, who despite his ties to the left served as Europe minister when Mr Fillon was in office. Mr Fillon this week sued two journalists at *Le Monde*, as well as Mr Jouyet, for libel. The journalists claimed that Mr Jouyet told them that, during a lunch in June, Mr Fillon had asked him to speed up judicial investigations involving Mr Sarkozy. Having initially denied that the subject was even raised, Mr Jouyet admitted that it was—but stressed that the judiciary was independent. The journalists say they taped their conversation with Mr Jouyet. Mr Fillon denies making any such request.

The affair has grabbed headlines in France, and distracted attention from the substance of Mr Sarkozy's judicial tangles, which could yet be the main obstacle between him and the presidency. So far, say the polls, Mr Fillon has been most damaged. Mr Juppé has gained ground. But he is not the only beneficiary. A scandal that involves France's inward-looking web of elitist cross-party ties is also a gift to Marine Le Pen's populist National Front. ■

Spanish politics

A three-cornered hat

MADRID

Podemos's leader seeks to sustain its position as Spain's third party

THEY chanted and sang and promised happiness. But after Spain's radical Podemos ("We Can") party chose its leaders on November 15th it remained remarkably thin on policy. "There is still much to do," admitted the party leader, Pablo Iglesias, after 89% of the party's 107,000 internet voters had ticked his name.

The rise of Podemos is a triumph for Mr Iglesias and the technologically astute university lecturers and activists who designed, launched and kept control of the party in its first ten months. It also marks the resurgence of the *indignados*, protesters who peacefully took over city squares in May 2011, two-and-a-half years after Spain first plunged into the economic dumps.

It has taken years of chronic unemployment, a banking bail-out, a second dip into recession (now over) and a flood of corruption cases to see the amorphous *indignados* take shape in party politics. In opinion polls support for Podemos has surged as high as 28%. But turning this into real votes may yet prove difficult.

Podemos stood for its first elections, to the European Parliament, in May and took 8% of the vote. Just six months later it is neck-and-neck in the polls with both the Popular Party (PP) led by Mariano Rajoy, Spain's less-than popular prime minister, and the stuttering opposition Socialists. Along the way it has sunk Spain's communist-led United Left (IU) coalition.

Mr Iglesias promises a new politics, beyond the left-right paradigm. Yet many are sceptical. Some senior party members come from groups with names like Youth with No Future or the Anti-Capitalist Left. Others have worked with Venezuela's Bolivarian left. On November 15th Mr Iglesias railed against Spain's "regime" and "oligarchies". He was greeted with cries of "Yes, we can!" and "Let's get them!" The guest speaker was Alexis Tsipras, leader of Greece's radical Syriza party.

Mr Iglesias's main demand is for a rewrite of Spain's constitution to scrap the "regime of 1978" and get rid of a *casta* of supposedly self-serving, corrupt politicians. Podemos would solve the Catalan problem by allowing an independence vote. On the economy, Mr Iglesias wants a restructuring of Spain's public debt, government intervention and tax rises (especially for the rich) to pay for better public services. He also wants Spaniards to work fewer hours, as a way of reducing unemployment that is still running at 24%. Economists whom he cites include such well-known names as Joseph Stiglitz, Paul Krugman and Kenneth Rogoff.

IU and the Socialists are watching Podemos closely. The head of IU, Cayo Lara, announced on November 16th that he would not lead the party into elections next November. Mr Lara is likely to be replaced by a 29-year-old economist, Alberto Garzón, who is another star from the ranks of the *indignados*. Mr Garzón is even younger than the most visible Podemos leaders, who are mostly in their 30s. Like the pony-tailed Mr Iglesias, he is popular on television talk shows. The two could yet work together. The Socialists have their own newish leader, Pedro Sánchez. They may have to decide whether to ally with Podemos or, if it takes enough of their votes, to join a grand coalition with the PP.

The PP sees Podemos as a radical party that weakens its main Socialist rival. But the government also frets that it may scare off investors. Mr Rajoy is a dogged devotee of the constitution and a system that has seen the PP and the Socialists take it in turns to rule Spain for 32 years. He accuses Podemos of seeking to destroy progress made since Spain shed dictatorship. "If someone wants to undo all that and chuck it overboard, I suppose it is through ignorance, but it makes no sense," he says. ■

Hey, Pablo Iglesias

Portugal's visa scandal

Buying their way in

LISBON

Schemes that, in effect, sell visas to rich foreigners come under fire

AMONG the rising number of impoverished European governments that offer residence permits to rich non-Europeans, Portugal has been perhaps the most successful. In return for investments totalling over €1 billion ($1.25 billion), the Portuguese authorities have issued 1,775 "golden visas" in the past two years, four-fifths of them to Chinese investors.

But success turned to scandal on November 13th, when the police detained 11 people, including the head of Portugal's border agency. The police are understood to suspect that some properties supposedly bought to obtain a golden visa may have gone for far less than the €500,000 minimum the scheme requires; some of the difference may have been used to finance dodgy pay-offs. On November 16th the interior minister, Miguel Macedo, resigned.

The investigation in Portugal could have wider ramifications across Europe, where countries from Greece and Spain to Latvia and Hungary run similar schemes. As in these countries, Portugal was trying to make up for a sharp drop in investment during its economic crisis. Under the scheme, a minimum amount spent buying a property entitles non-European families to live in the country for five years, after which they can apply for permanent residence. Paulo Portas, deputy prime minister and main advocate of the Portuguese scheme, credits it with reviving a moribund property market. Mr Portas is being questioned by a parliamentary committee.

The entire concept of trading residence permits for cash, albeit in the form of property investment, has long been under attack. Ana Gomes, a Portuguese Socialist member of the European Parliament, is calling for an inquiry into golden visas, which she says are "highly conducive to corruption and criminality". With poor migrants risking their lives daily to enter Europe, she asks if it is morally right to give the well-off unequal treatment. Some left-wingers are calling for Portugal's scheme to be scrapped.

Neither Mr Macedo nor any other minister is suspected of direct involvement in the deals being looked at by the police, according to the attorney-general's office. But the case is still an embarrassment for the prime minister, Pedro Passos Coelho, whose government had trumpeted golden visas as a resounding success. The scheme has cost him a minister less than a year before an election. Only a few months ago Portugal triumphantly exited its bail-out programme. Now scandal could tarnish his party.

Charlemagne | Cold comfort

Russia will be the biggest test for Europe's new foreign-policy supremo

ALL of Europe rejoiced when the European Space Agency deposited Philae, a probe the size of a kitchen appliance, on the surface of a comet 300m miles (480m km) from the Earth. It was like throwing a dart blindfolded across an ocean and hitting the bullseye. Philae fell silent soon afterwards, but not before dispatching reams of data and a shot of optimism to a continent that has had little to cheer. Closer to home the European Union finds it harder to exert influence—even over its neighbourhood.

Russia's intervention in Ukraine is providing an early test for the EU's new high representative for foreign policy, Federica Mogherini, who previously served (albeit briefly) as Italy's foreign minister. NATO is warning of a renewed build-up of Russian troops and kit in eastern Ukraine. The recent sham elections in two pro-Russian separatist regions in the Donbas were "respected" if not recognised by Moscow. The Minsk ceasefire accords signed in September by Ukraine, Russia and the separatists are being honoured only in the breach. Petro Poroshenko, Ukraine's president, is preparing for "total war".

How did Europe allow such devastation on its doorstep? EU officials cite the claim that, whereas in 1989 Ukraine was at roughly the same level as Poland, today it is three times as poor. The implication is that with the right policies Ukraine's turn from its European destiny may be corrected. It was this thought that inspired the brave protesters, many flying EU flags, who filled the Maidan in Kiev a year ago. They sought not just the downfall of Mr Poroshenko's predecessor, Viktor Yanukovych, who had bowed to Russian pressure to reject an EU trade deal, but an end to the corruption and thievery that had defined their country since independence. The real battle-cry of the Maidan was for a modern, European-style state. Instead, Ukraine has become a bloody war zone and an economic basket-case.

Ukraine was always going to be difficult. By late 2004, when the Orange revolution brought pro-Europeans to power in Kiev, the EU had begun its expansion to the east. Then "enlargement fatigue" left poorer ex-Soviet countries like Ukraine in the cold. The European neighbourhood policy, designed to bring about political and economic change in the EU's neighbours without the offer of membership, was a dismal failure. It substituted technocratic gradualism for hard-headed politics and so failed to respond to the needs of individual countries and regions.

But the trickiest problem is Russia. Vladimir Putin decided that a Europe-leaning Ukraine was a threat to Russian interests. His meddling, notably the annexation of Crimea and the invasion of the east, has been unpredictable and opportunistic, and emblazoned with nationalist ideology, whether revanchist talk of *Novorossiya* or attacks on America. His "Eurasian Economic Union" has ambitions to rival the EU, even if its membership is limited so far to Armenia, Belarus and Kazakhstan.

The scales have certainly fallen from European eyes. On November 16th Mr Putin left a G20 summit early after being harangued by his fellow leaders. Soon afterwards Angela Merkel, Germany's chancellor, issued an unusually forthright assessment of the Russian threat, not only to Ukraine but also to Georgia, Moldova and the Balkans. Mr Putin's willingness to escalate in Ukraine has outstripped Europe's ability to respond, notwithstanding the sanctions the EU has put in place. At their meeting this week EU foreign ministers agreed merely to condemn the Donbas votes and to extend sanctions to a few more separatists.

This was also the first foreign ministers' meeting to be chaired by the redoubtable Ms Mogherini. Many analysts, and even some EU governments, were against choosing her, fearing that she would exemplify her country's long-standing pro-Kremlin tilt. Some added that, like her predecessor, Cathy Ashton, she was too inexperienced for the job—though she has a long political and international background on Italy's centre-left.

As well as convincing naysayers, she faces the hard task of maintaining unity among EU member countries. Many chafe against the damage that they claim sanctions on Russia are causing to their economies. With Europe's larger countries, now including Germany, increasingly forging their own foreign policy it is not clear what difference Brussels can make.

The tools for the job

Yet the EU is not toothless. Ms Mogherini has many "instruments", in the jargon, at her disposal, including a well-staffed, brainy diplomatic service and the European Commission's financial clout. She is a commission vice-president, who despite her peripatetic job promises to attend every weekly meeting of the college. She has some shrewd ideas about how to make best use of the EU's unwieldy bureaucracy. Senior officials hint that they are ready to provide more economic assistance if the Ukrainians get serious about judicial reform, business liberalisation and so on. Yet it is hard to think of a country in which Europe's money, or the power of its example, has proven transformative without there being an offer of membership, however remote. It is not clear if it can work any better in Ukraine.

Ms Mogherini's best hope may be to buy time. Mr Putin's endgame is not clear, perhaps even to himself. Some fear that he wants a land bridge to Crimea. Others suggest that, despite appearances, he may be starting to engage more with the West. Perhaps most likely is a continuation of low-level fighting, as the separatists try to secure or expand their territory. The EU's sanctions will remain in place until next spring, and may well be extended. Andrew Wilson, a Ukraine expert at the European Council on Foreign Relations, a think-tank, suggests that Russia may then be more vulnerable to pressure, particularly if oil prices stay low. But will Ukraine's economy last that long? ■

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National Health Service

The English reformation

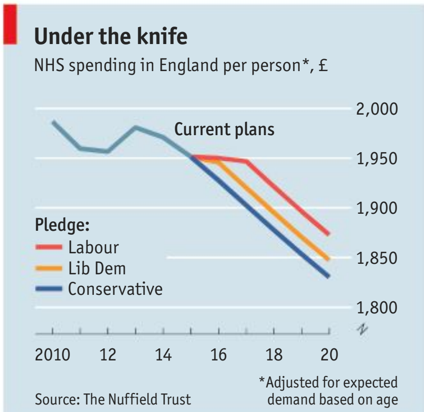
As politicians squabble over England's ailing health service, the bureaucrats have offered some promising medicine

A SENIOR Conservative politician once described England's beloved National Health Service (NHS) as "the closest thing the English have to a religion" (Scotland, Wales and Northern Ireland run their own services). Yet, as with many religions, passionate devotion can often stand in the way of serious analysis. Public discussion is too often reduced to an absurd competition about who can express support for the institutions of the NHS in the most unqualified terms, says Stephen Dorrell, a former Conservative health secretary. Anyone who tries to introduce nuance "quickly finds out what it must have felt like to be regarded as a heretic in a more religious age".

With a general election looming, all parties want to look righteous, and are not thinking critically. The Labour Party, most trusted by voters to run the NHS, wants to make it the primary issue. The Tories, though supportive of the service, don't want to talk about it. Whichever party succeeds stands a better chance of winning in May. But the result is an unholy mess.

Tight budgets and increasing demand from Britain's greying population have put the NHS under huge strain. But unlike other departments, forced to cut and reform, it lacks a clear consensus and firm direction on how it should adjust to straitened times. National targets for waiting times and length of stay in hospital do not necessarily lead to better care. Emergency wards are clogged and the money is about to run out. Yet the NHS wastes over £2 billion ($3.3 billion) a year on expensive or unnecessary treatments, like overprescribed drugs and pointless X-rays, according to the Academy of Medical Royal Colleges. While politicians, afraid of being accused of heresy, make timid suggestions, Simon Stevens, the NHS's innovative new boss, has offered his own ideas for reform.

NHS spending is up 3.6% in real terms since the Conservative-Liberal Democrat coalition government came to power in 2010, according to the King's Fund, a think-tank. Even so, the service is struggling to hold itself together. Occasional cash injections have helped it cope with an increase in patients. But with 3m people still waiting for care, the highest total in six years, more is needed. Even if spending keeps up with inflation, the NHS claims its budget may fall short by £30 billion a year by 2021.



The Conservatives' main move has been to back away from their own reforms, passed in 2012, which increased competition, gave health officials more autonomy and handed control over the purchase of care to groups of local doctors. Never understood by voters, these are now seen as a political disaster. But some aspects—like experiments in integrating services and moving care out of hospitals—deserve support. Labour, meanwhile, wants to merge the NHS with "social care"—looking after the elderly, disabled and mentally ill—which is run by local authorities and is also cash-strapped. That is a laudable goal, but it would probably involve another reorganisation and huge cost. So would a plan by Andy Burnham, the shadow health secretary, to take the service back in time by favouring NHS providers over private competitors for contracts. Spending on non-NHS services ticked up slightly, to 9.5% of net NHS expenditure in the last financial year, according to Reform, a think-tank.

Otherwise, the parties have simply promised to throw more money at the problem. Labour says it would boost the NHS's budget, which sits at £110 billion, by £2.5 billion a year if it wins the election. The Conservatives say they would continue with real-term increases, which have averaged £1 billion a year under this government. The trouble is neither of these pledges would come near to closing the funding gap, nor would they maintain the current rate of spending when accounting for the ageing population (see chart). The longer-term trend is yet more worrying. England spends just over 6% of national in-

come on the NHS. If this continues the share would rise to 20% and account for half of government spending by 2061.

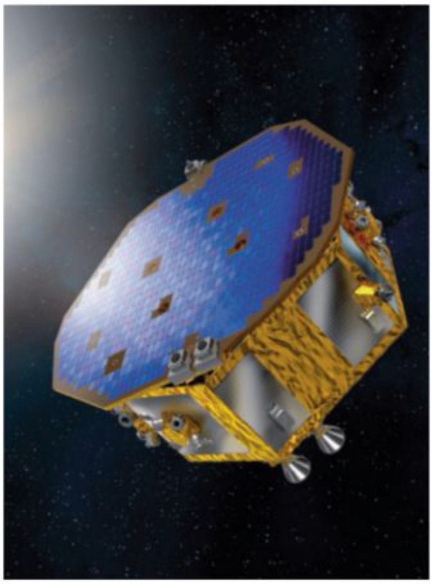
Defenders of the NHS have had suspicions about Mr Stevens ever since he started work in April. He arrived from UnitedHealth, a private American health-care firm. Before that, he worked on Tony Blair's pro-market health reforms. Recognising that advocating change to the NHS is inevitably political, he has stepped carefully. Nevertheless the five-year plan he published last month looks to change the service in a big way.

Mr Stevens reckons he can save £22 billion a year by 2021 through curbing hospital admissions and limiting demand for services. This would involve better public-health efforts, but also a major restructuring of existing institutions to break down barriers between family doctors and hospitals, physical and mental health, and health and social care. For this he will rely on local efforts, but he has given officials a menu of models from which they could choose. These include allowing hospitals more freedom to provide primary care and helping them to support care homes to prevent emergency admissions. Others involve allowing local doctors to provide some services normally done in hospital and getting smaller hospitals to team up and share administrative costs.

The plan is politically astute. It does not mention competition or privatisation, which raise hackles. But many of its ambitions can be achieved only through greater use of the private sector, says Thomas Cawston of Policy Exchange, a centre-right think-tank. Mr Stevens also calls for consolidating services, pointing to how 32 stroke units in London were reduced to eight, with positive results. He does not suggest closing facilities, though officials may have to. Nor does he propose ending favourable contracts for staff, or consider controversial user charges and higher taxes to make up the remaining £8 billion gap.

Mr Stevens has so far avoided any big fights, but he will face resistance from entrenched interests. Take the situation in Bedfordshire, where the group responsible for purchasing services has bundled 20 contracts for musculoskeletal care into one that was won by Circle, a commercial health group. Mr Stevens is supportive of such agreements to integrate services. But the local NHS hospital has so far refused to work with Circle, lest it lose customers (ie, patients) and upset its balance-sheet, on which hospitals are, in part, judged.

For now, though, it is perhaps enough that Mr Stevens has pleased the politicians. Labour and the Tories continue to spar over the NHS, but both parties have expressed support for his plan. He will need it. Past attempts to reform the system have failed. The difference this time, says Mr Stevens, is that the NHS has little choice. ■



Satellite industry

Stars in their eyes

STEVENAGE

As the Rosetta mission shows, Britain is getting it right in space

IN A clean room at the Airbus Defence & Space (ADS) factory north of London, scientists are working on *LISA Pathfinder* (pictured), a hexagon-shaped satellite due to be launched next year. The aim of the ambitious space mission is to try, for the first time, to find and measure gravitational waves—ripples in space-time predicted by Einstein's general theory of relativity. If that's possible, earthlings would have further evidence that the theory is true, and they should also, eventually, be able to locate black holes more accurately.

To do all that, however, *LISA* first has to get to a "Lagrange point", a place where spacecraft can float stably while getting no farther from the earth. This is essential for detecting the gravitational waves. The only force that could then ruffle *LISA* would be solar wind, explains Justin Byrne, a deputy director of ADS. Solar wind is so light, however, that developing thrusters soft and accurate enough to counteract it has been "the trickiest bit of all". It would take 1,000 of the thrusters developed for *LISA* to lift a single piece of paper; *LISA* has just four.

This is the kind of technological achievement that has made Britain a leader in satellite design and construction. This week ADS was celebrating the European Space Agency's *Rosetta* mission to comet 67P/Churyumov-Gerasimenko (see page 76). The probe, *Philae*, that landed on the comet, was assembled largely in Germany. But *Rosetta* itself was, for the most part, constructed in the same clean room where *LISA* is being built; Mr Byrne himself was one of the designers of *Rosetta* when the mission was first conceived about 20 years ago. Altogether ten British companies were involved in the *Rosetta* mission, making up 20% of the contractors used among 14 European countries. Some of the fancy kit on *Philae* was British, such as the miniature laboratory built at the Rutherford Appleton laboratory near Oxford to a design from the Open University.

This outsized contribution to the *Rosetta* mission is now typical of Britain's place in the firmament of satellite construction. About one-quarter of the world's commercial communication satellites are built in Britain and 40% of the world's small satellites. Most of those are built by Airbus's Surrey Satellite Technology Limited (SSTL), the world leader in the field. It has launched 43 satellites since it was started by an academic at Surrey University, Sir Martin Sweeting. The whole space sector directly employs 35,000 people, and the supply-chain accounts for thousands more jobs. London-based Inmarsat is one of the world's largest satellite operators, specialising in mobile telephony. The space sector has a turnover of about £11 billion a year.

Things have not always been so rosy. The ADS plant in Stevenage has itself been a graveyard for Britain's ambitions in air and space. Originally owned by De Havilland, an aircraft company, it was here during the 1950s that parts for the Comet, the world's first passenger jet, were made. The Blue Streak missile was also built here. Several fatal crashes, however, ended production of the Comet and, with it, Britain's lead in commercial airliners. Blue Streak was cancelled due to spiralling costs, effectively ending the country's interest in launching rockets.

Silver lining

These were disasters at the time, but in retrospect also rather fortuitous. Britain's space industry was consequently forced to look at small-scale projects and to survive on tight budgets, unlike America's. It also made the British more commercially minded in financing the industry.

The satellite maker SSTL, for example, argues one of its directors, Andrew Bradford, is largely about "changing the economics of space". It has virtually invented the niche market for less expensive, smaller satellites, selling a lot to developing countries. And it works on science missions like *Rosetta*. Mr Byrne also argues that ADS has been successful partly because it has a good commercial business, making big satellites for customers like BSkyB, a broadcaster. The innovative technology developed for the government-funded science projects like *Rosetta* is transferable to business, maximising the return on the intellectual investment. For now, it looks like a stellar formula. ■

Bagehot | How not to treat Brand Britain

Some Indian students have advice for David Cameron on reputation management

THE campus of the Department of Management Studies (DMS) is a vision of India's future disguised as the past. Shoeless gardeners sprawl on dusty grass or haul ancient mowers. Yet the business school, a faculty of the elite Indian Institute of Technology in Delhi, is one of India's best and its students among India's—which means the world's—brightest and most driven.

Oxford and Cambridge accept one in five of their applicants. The DMS interviews 3,000 candidates for 65 places. All computer aces—the school specialises in data analytics—its students are typically in their mid-twenties and have spent a couple of years with a top Indian technology company. After their MBA, they go on to global IT or consulting firms, such as Accenture or KPMG. They are the sort of high-flying Indians who helped build Silicon Valley, are remaking India's global image and whom David Cameron yearns to impress. Wooing the new India is "at the top of the priorities of the UK's foreign policy," the prime minister told his Indian counterpart, Narendra Modi, on November 16th. The DMS is therefore a good place from which to gauge his progress.

A group of students gathered to enlighten your columnist after hearing a pitch from an American analytics firm. Their hunger was visible: they craned to hear Bagehot speak. But he was there to listen, and what he heard was a masala of ideas about Britain which, though mostly positive, had bad news for Mr Cameron.

All the students wanted to work abroad, where, said Konark, "the levels of innovations are much higher than in India." Two-thirds wanted to work in America, and a third in Europe, which generally meant Britain. Of 34 students, 21 had a "strongly positive" impression of Britain and nine a "positive" one. Only two felt "neutral" towards it, and two "slightly negative". This sunny view was not mainly for professional reasons; asked how they felt about Britain as a place to study and work, only one felt "strongly positive" and 14 "positive". Their regard was mainly cultural: "I'm not an extrovert," said Konark, who had visited both countries, "So I prefer British manners to American ones."

None of the students was interested in India's colonial past, but many liked the shared inheritance it had left: "Our political system and institutions are from Britain," said Rahul. Just as Britons often overestimate how well they understand India because of this, so the students had one or two odd notions. "Traditionally, Irish and Scots like India but the English and Welsh don't," said Abhishek confidently. Yet the advantage Britain enjoys from its far-flung culture was more obvious. It was the country most of the students most wanted to visit on holiday—to see Stonehenge, Old Trafford, the home of Manchester United, and Lord's Cricket Ground. Some said they wanted to watch India play Australia there, which represented either the apogee of global sporting culture, or poor knowledge of India's favourite game.

Yet there was a cloud on their western horizon, in the form of Mr Cameron's immigration policy. As Britain's visa regime has tightened on his watch, the number of Indians studying in British universities has more than halved. Rahul was offered a place by the London School of Economics, but denied a visa to take it up—"because they didn't think I would leave, even though I go to one of the best business schools in India," he said crossly. Most said Britain was still accessible for study but, because foreign students must find employment within a month of graduating, hard to work in. "Study abroad is a long-term thing for us because we need to work to pay off the debt," Utsav complained. "So people are less interested in going to the UK," said Pavan. Half the students had a more negative view of Britain because of this. Only three realised Mr Cameron wanted to improve British-Indian ties, and one assumed that meant "trying to sell us jet fighters".

Senior Tories acknowledge the problem. When Mr Cameron, in opposition, pledged to bring annual net migration below 100,000, Britain's net immigration from EU countries, which it cannot control, was around 60,000. Because of the euro crisis, it has soared, to around 130,000 immigrants this year, forcing the Tories to squeeze non-EU immigration in a failing effort to keep their pledge. This is self-defeating. On his first visit as prime minister, Mr Cameron dared to imagine a new "special relationship" with India; on two later trips he was barracked over visas.

Viewed generously, his recent pledge to curtail EU freedom of movement is an effort to fix this. "If we have fewer low-skilled Europeans we'll have more high-skilled Indians," says a Tory minister. But that is not straightforward. With other European governments primed to slam Mr Cameron's proposals, which he promises to unveil shortly, it risks leading Britain out of the EU. That is not something Mr Cameron or most of his ministers want; Philip Hammond, the Eurosceptic foreign secretary, may be a strangely placed exception. Another problem is that, even if Mr Cameron believes he is attacking Britain's policy of open borders in order to improve it, most people only see the attack.

Listen to what the geeks are saying

"Britain is becoming more closed as an economy," said Konark. "I also gather there's a xenophobic shift there. A friend faced a racial attack, which you expect in France, but not Britain, which has such a long history with India." Would this stop him coming back? "That's a cost-benefit analysis I need to do," he said, suggesting an understanding of risk of which Mr Cameron is bereft.

The DMS folk underlined how damaging that could be. Asked whether India was well understood in the West, they shook their heads. "People know about Indian IT but not that other industries are coming up," said one of their professors. Graphic design, advertising, film production, even aerospace: in such industries, in which Britain excels, India is rising, and as the irreversible logic of globalisation unfolds, so global competition will increase. Mr Cameron should worry a lot more about competitiveness, and not trash the global brand Britons are lucky to have. ■

Also in this section

Financial sanctions

The pros and cons of a SWIFT response

Blocking rogue states' access to the world's financial-messaging network is a potent measure, but it carries long-term risks

IN 1973 global finance saw a back-room revolution when a group of banks formed a co-operative to offer those moving money across borders a slick alternative to the clunky old telex. Today the electronic financial-messaging system of the Society for Worldwide Interbank Financial Telecommunication (SWIFT) transmits more than 5 billion bank-to-bank messages each year. In 2013 it oiled the transfer of trillions of dollars globally by the 10,500 banks, asset managers and firms that are its members. SWIFT does not initiate transfers, hold customers' money, or clear or settle payments. Rather, it provides a template that helps international transfers flow smoothly and be tracked.

Without SWIFT, global trade and investment would be slower, costlier and less reliable. But the network's very usefulness means it is increasingly being cast in a new role, as a tool of international sanctions. In 2012 it was obliged, under European law, to cut off access for Iranian banks that had been subjected to sanctions by the European Union. Now there are calls for Russian banks to be banned from SWIFT in response to Russia's invasion of Ukraine.

A group of American senators is arguing for the measure, which could be inserted into a broader bill on sanctions against Russia that has a good chance of being passed in the next session of Congress. The European Parliament passed a resolution in September calling on the EU to consider mandating a cut-off. (Based near Brussels, SWIFT is governed by Belgian law.) European governments are divided, with Britain and Poland among the keenest.

The earlier SWIFT ban is widely seen as having helped persuade Iran's government to negotiate over its nuclear programme. The ban was one of the first sanctions Tehran asked to be lifted, points out Mark Dubowitz of the Foundation for Defence of Democracies, a Washington-based think-tank. Though some of the banks blocked from SWIFT managed to keep moving money by leasing telephone and fax lines from peers in Dubai, Turkey and China, or (according to a Turkish prosecutor's report) by using non-expelled Iranian banks as conduits, such workarounds are a slow and expensive pain. And the sanctions prompted Western banks to stop conducting other business with the targeted banks.

The impact of a reprise on Russia's already fragile economy would be huge. Its banks are more connected to international trade and capital markets than Iran's were. They are heavy users not only of SWIFT itself but also of other payment systems to which it connects them, such as America's Fedwire and the European Central Bank's Target2. *Kommersant*, a Russian newspaper, has reported that more than 90% of transactions involving Russian banks cross borders.

Foreign firms that do business in Russia would suffer, too. Countries that trade heavily with Russia, such as Germany and Italy, are therefore none too keen. Nor are many in the financial sector. SWIFT is less insulated from such pressure than its counterparts in other sectors, such as the International Telecommunication Union, a UN agency which is governed by an international convention. But it is a crucial part of the world's financial plumbing system.

SWIFT's own rules allow it to cut off banks involved in illegal activity, and it has occasionally done so. But if it ends up being used frequently for sanctions, it could come to be seen as an instrument of foreign policy, thereby weakening its cherished neutrality. Already there are calls for it to be used in other conflicts: pro-Palestinian groups have recently sought for Israel's banks to be shut out, for instance. And as China's economic clout grows, might it want Taiwanese banks excluded?

Another risk is that using SWIFT in this way could lead to the creation of a rival. Russia's central bank is pre-emptively working to develop an alternative network; China has also shown interest in shifting the world's financial centre of gravity eastward. Earlier this year it co-founded a BRICS development bank with Russia, India, China and South Africa, and its UnionPay service, set up in 2002, has loosened the stranglehold of MasterCard and Visa on card payments. If China and other countries that feared being subjected to future Western sanctions joined the Russian venture, it might become an alternative to SWIFT—and one less concerned with preventing money laundering and the financing of terrorism.

Since the terrorist attacks of September 11th 2001, America has used subpoenas to gain access to data on SWIFT transactions as part of the Treasury's Terrorist Finance Tracking Programme. (SWIFT has to hand

over only data linked to specific suspected threats, and the arrangement is independently monitored.) Since 2010 America has shared this information with its European allies. It has proved useful. Though terrorists know that SWIFT is monitored by spooks, they still use it, just as they continue to use mobile phones: they know both bring risks, but sometimes they have no obvious alternatives.

According to a recent European Commission document, between October 2012 and February of this year information from SWIFT, including account numbers, names, addresses, transaction amounts and branch locations, produced 5,421 separate counter-terrorism leads for EU states and Europol. Such data are rarely enough alone to give a clear picture of a terror cell's activities, but they sometimes provide missing links in investigative chains.

Dragging SWIFT further into sanctions could upset this fruitful arrangement. Some worry that this might hamper attempts to track the finances of Islamic State. Though most of the terrorist group's funding comes from local oil revenues, ransoms and shakedowns of businesses in territories that IS controls, it is hard to imagine the group operating without having to make or receive at least occasional international bank transfers.

"Governments have to be very careful how they use SWIFT as a tool of financial pressure," says Juan Zarate, who helped pioneer the use of banking sanctions while at America's Treasury a decade ago. To avoid collateral damage and thus maximise legitimacy, better to target only those banks linked to specific illicit activities, he argues. The Iranian banks hit by sanctions had been accused of involvement in funding terrorists or the Revolutionary Guards, a branch of Iran's military, or nuclear proliferation. The Russian equivalent might be banks linked to organised crime rings or kleptocratic energy deals. An alternative would be for America to label some Russian banks as "primary money-laundering concerns" under the Patriot Act, which would in effect cut them off from transactions with Western banks.

Call the plumber

America's current crop of senior Treasury officials are similarly cautious, despite being vocal proponents of sanctions in general. SWIFT is a "global utility", says one, and using it for sanctions should be "an extraordinary step, to be used in only the most extraordinary situations". Blocking access to SWIFT, he frets, could mean that traffic shifts to networks that are less secure and easier to disrupt—and thus make life easier for criminals and cyberterrorists, including those in rogue governments. Against those who threaten global security, a SWIFT ban is a powerful and proven weapon. But it is also a risky one. ■

FIFA and corruption

Hear no evil

Football's governing body is struggling to silence its critics

AUTOCRATIC Russia and sweltering Qatar won the rights to host the 2018 and 2022 World Cups fair and square, after a generally clean and honest bidding process. There might have been dodgy dealing, perhaps even criminal behaviour, on the part of a few of those involved—but not enough to justify rerunning the bids.

That, at least, is according to FIFA, world football's governing body. On November 13th it described the results of an internal investigation into the bidding process as having mostly cleared itself and the host countries of wrongdoing. Nevertheless, on November 18th it said that it was handing the report from that probe over to Swiss authorities because it may have uncovered criminal activity (as yet unspecified).

The investigation into the bidding process had been led by Michael Garcia, an American lawyer, who submitted over 400 pages of findings to FIFA's ethics committee in September. His report was then reviewed by Hans-Joachim Eckert, a German judge who heads the committee's adjudicatory chamber (pictured right, with Mr Garcia). It was not published, despite pleas from some FIFA officials and Mr Garcia himself. Instead Mr Eckert released his own summary, which Mr Garcia has described as "incomplete and erroneous". Two whistle-blowers have since said that Mr Eckert tarnished and misrepresented them. Mr Garcia has appealed against Mr Eckert's interpretation of his report—to another FIFA committee.

Ever since Russia and Qatar won the hosting rights in 2010, there have been allegations of funny business. Several FIFA officials involved have since stepped down under a cloud. In June the *Sunday Times*, a British newspaper, published e-mails detailing lavish campaigning by Mohamed bin Hammam, a disgraced former FIFA bigwig from Qatar, ahead of the vote for his country. Lord Triesman, who led England's bid for the 2018 tournament, has said FIFA officials asked him for bribes.

So it may seem odd that England was the country most harshly criticised by Mr Eckert. Its bid committee had accommodated unethical requests from corrupt FIFA officials, he said. Qatar, too, had committed some violations, but according to Mr Eckert its actions "were, all in all, not suited to compromise the integrity" of the process. Russia was let off the hook, even though investigators had limited access to its documents because the computers its officials used had been destroyed.

Dismayed by the findings and the lack of transparency, some football officials are daring to peek above the parapet. Mr Eckert's summary was "a joke", says Greg Dyke, the chairman of England's Football Association. His predecessor, David Bernstein, has called for UEFA, European football's governing body, to boycott the World Cup in protest. Reinhard Rauball, the head of Germany's soccer federation, has suggested that UEFA might leave FIFA if Mr Garcia's full findings are not published.

But a European rebellion seems unlikely. Michel Platini, the head of UEFA, who has himself had to deny allegations of corruption, voted for Qatar. Europe's football associations benefit from hosting World Cup qualifiers and the sponsorship deals that come with playing on the tournament's big stage. Poorer nations are even

less likely to challenge FIFA, as they benefit from its handouts. The money sloshing around feeds a perception that at least some of it is used to buy favours or votes.

Despite not having read Mr Garcia's report, Sepp Blatter, the 78-year-old head of FIFA, insists his organisation is clean: "If we had anything to hide, we would hardly be taking this matter to the [Swiss authorities]." But the Swiss benefit from FIFA's presence in Zurich. A greater threat may come from the Americans. The FBI is investigating allegations of corruption against FIFA, and Mr Garcia can still recommend cases against individual officials.

After Mr Eckert's summary, FIFA said that "a degree of closure has been reached". That depends on the sponsors. If they start to abandon FIFA and its World Cup, it will prove wishful thinking. ■

The war on obesity

Heavy weapons

A new study offers hope in the battle against bulging waistlines

IT HAS become a cliché to call obesity a big problem for a reason: more than 2.1 billion people, or nearly 30% of the global population, are overweight or obese. Excess weight leads to about 5% of worldwide deaths. On current trends, almost half of the world's adults will be fat by 2030. Over the past three decades, according to a study in the *Lancet*, a medical journal, no nation has slimmed down.

It's enough to drive a person to comfort eating. But a new study from the McKinsey Global Institute (MGI), the consultancy's research arm, offers some hope. It looks at 74 anti-obesity measures around the world, and judges the cost and impact of the 44 for which there were sufficient data. None alone could do much, it concludes, but all 44 together could mean about a fifth of overweight people achieving a reasonable waistline within five to ten years.

The interventions range from nudges (making healthy eating choices easier) to shoves (taking poor eating choices away). The most effective would force food producers and restaurants to make servings smaller and limit fatty ingredients (see chart). Others are less paternalistic, such as having grocery stores promote healthy products instead of sugary ones. But leaving it to individuals to slim down through dieting and exercise without any such help, MGI concludes, consistently fails.

How much governments should do to promote healthier lifestyles sparks vigorous debate, especially among Americans, who prize freedom as much as freedom fries. When Michael Bloomberg, then the mayor of New York, tried to limit the size of sugary drinks in 2012 he faced a backlash, and was stopped by the courts. In Europe a number of countries have all but rid foods of trans fats, which have particularly potent artery-clogging effects. America is heading in that direction, too.

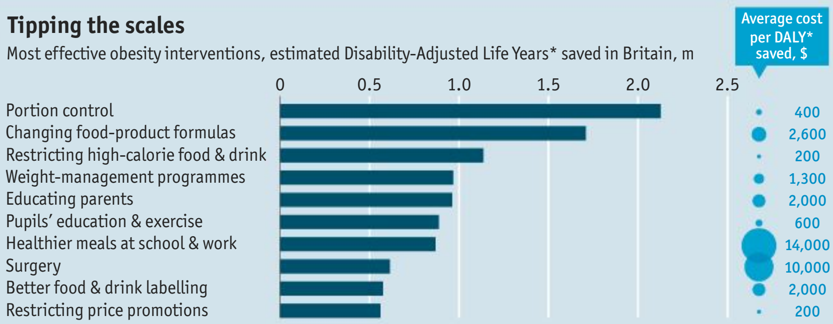
John Stuart Mill, the liberty-loving 19th-century philosopher, saw state action as justifiable to prevent deeds harmful to others. Some regard anti-obesity measures as falling into that category. Rich countries devote 2-7% of their health spending to the problem, and up to 20% if you include treatment of associated diseases, such as diabetes. The economic burden of obesity, MGI estimates, is 2.8% of global GDP, roughly equal to that of smoking or war.

Almost all the measures analysed in the report are cost-effective, offering healthcare savings and productivity gains that would outweigh their cost over the lifetime of the target population. If they were all deployed in Britain, which it uses as a worked example, the economic benefit would be around $25 billion a year. Yet Britain currently spends less than $1 billion a year on weight-management programmes, public-health campaigns and the like.

The MGI report is but a partial picture. It cannot vouch for all of the third-party research it cites. And it focuses on behaviour, rather than clinical questions such as the role of specific nutrients or genetics in obesity. It thus glosses over disagreement about what makes people fat. More study is promised. Consider this an appetiser. ■

Tipping the scales

Most effective obesity interventions, estimated Disability-Adjusted Life Years* saved in Britain, m



Source: McKinsey

*Years of life lost to ill health, disability and early death, over lifetime of 2014 population

Paydays and mortality

Cash to crash

Why getting paid can kill you

GETTING paid is generally good for the health. Those who are earning can buy better food and live in greater comfort; joblessness is associated with a host of ills, from heart disease to depression. But a new paper* finds that the consequences of actually receiving your salary can be fatal.

The authors looked at Sweden's public-sector employees, who make up a fifth of the country's workforce, over a six-year period. Regional variations in paydays allowed them to strip out the effects on mortality rates of the seasons, days of the week and the timing of public holidays. They found a 23% increase in the chance of dying on paydays, without a matching fall on the days following.

That suggests that the deaths were "extra", and not merely the slightly accelerated demise of frail individuals who would have died anyway in the coming days. If the same pattern holds for the whole workforce, the very fact of being paid kills nearly 100 Swedes a year.

Previous research had suggested that drinking and recreational drug-taking tend to rise on paydays: workers suddenly flush with cash get sloshed or high. Some then perish. But the new research found no such effect. Nor did mortality rise from accidents or road collisions. The extra payday deaths were almost all from heart problems (a 70% rise in mortality) and strokes (a 120% rise). They were among workers who earned less than average, and mostly among the young: 16- to 35-year-olds saw a 125% rise in mortality; over-50s, just a 29% rise.

These patterns, the authors say, suggest that increased spending on food and leisure—take-out meals, trips to football matches and the like—caused a sudden spike in activity, which led to the extra deaths. Poorer and younger workers, having cut back on fun as their bank balances dwindled during the month, went on a consumption spree once they were topped up. A few died as a result.

That receiving cash can kill is dispiriting. But there is a policy lesson. During the industrial revolution many casual workers were paid by the day, says Jane Humphries of Oxford University. In this respect, at least, a return to 19th-century ways might save lives.

*Income receipt and mortality—evidence from Swedish public-sector employees, by Elvira Andersson, Petter Lundborg and Johan Vikström. Institute for Evaluation of Labour Market and Education Policy, 2014:21

Also in this section

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Government-controlled firms

State capitalism in the dock

NEW YORK

The performance of state-owned enterprises has been shockingly bad

ON NOVEMBER 14th Brazilian police raided the offices of Petrobras, a vast state-controlled oil firm at the centre of a corruption scandal. Back in 2010 Petrobras was a symbol of Brazil's economic rise. It conducted the largest global equity raising on record, to pay for the development of fields off Brazil's coast. Now, bribes are the least of it. Despite an investment binge its production growth has been anaemic. Its returns on capital and its shares have slumped. Its balance-sheet is shot, former executives have been arrested and its accounts may be restated. Petrobras is today an exemplar of something else: the lousy performance of state-owned firms.

Ronald Reagan said the nine most terrifying words in the English language were "I'm from the government and I'm here to help." For investors the scariest words may be, "I'm from a state-owned firm and I want your capital." Across the world, big, listed state-owned enterprises (SOEs) that were floated, or raised mountains of equity, between 2000 and 2010 have had a dismal time. Their share of global market capitalisation has shrunk from a peak of 22% in 2007 to 13% today. Measured by profits their decline is less stark, mainly because big Chinese banks continue to report inflated profits that do not accurately reflect their rotten books. Exclude them and SOEs' share of earnings has slumped, too (see chart). It will probably fall further.

In Russia, Gazprom, which the Kremlin once predicted would be the first firm to be worth $1 trillion, has crumpled: it is worth $73 billion today. India's mismanaged state-owned banks command miserly valuations compared with their private peers. Since 2009 the Shenzhen stockmarket's index, which is dominated by private firms, has rocketed past that of its rival in Shanghai, which is mainly made up of state companies, notes Sanford C. Bernstein, an analysis firm. Once, investors swooned at the rise of China Mobile, a state-owned operator. Now they admire Xiaomi, a wily private handset-maker. Shares in Vale, a Brazilian miner in which public-sector pension funds have a big stake, have lagged those of its private-sector peers, BHP Billiton and Rio Tinto, by over 40% in the past three years.

Not in a great state

State-owned enterprises*

As a share of top 500 global firms', %

Sources: Bloomberg; *The Economist*

*Companies in which the government holds at least 20% of voting rights

Overall, the SOEs among the world's top 500 firms have lost between 33% and 37% of their value in dollars since 2007, depending on how one treats firms that were unlisted at the start of the period. Global shares as a whole have risen by 5%.

It was not meant to be like this. As the West slipped into a crisis in 2007-08, state capitalism supposedly took the business world by storm, particularly in the emerging world. It had two elements. Sovereign wealth funds (SWFs) gathered the excess savings that oil-rich and Asian countries accumulated, investing them overseas. And a new, hybrid kind of SOE was in vogue. When Europe and Latin America privatised firms in the 1980s and 1990s, they often went the whole hog, with the state selling out completely—think of British Gas or telecoms in Brazil. But in the 2000s private investors were invited to play only a subordinate role, with the state keeping a controlling stake and making enlightened decisions in the interests of all. Investors lapped it up: they forked out more than $500 billion in SOE equity raisings between 2000 and 2012.

What went wrong? As trade surpluses and commodity prices have fallen, SWFs have accumulated cash at a slower rate and spent less on buying stakes in firms. In 2013 their investments were $50 billion, under half the level of 2008, reckons Bernardo Bortolotti of Bocconi University in Milan. SOEs, meanwhile, have been through hell. Tumbling commodity prices have hurt energy and mining firms. Sanctions have clobbered Russian firms. Corruption scandals have erupted, and not just in Brazil. Jiang Jiemin, PetroChina's ex-boss, was arrested in 2013, for example.

But at the root of the underperfor- ▶▶

mance is what looks like a huge misallocation of capital by SOEs. Given licence by politicians, and with little need to pacify stroppy investors, their capital investment surged, accounting for over 30% of the global total by big listed firms.

More than $2.5 trillion has been invested in telecoms networks, hydrocarbons fields and other projects by SOEs since 2007. Gazprom built an alpine ski resort for the winter Olympics. Etisalat, a telecoms firm in the United Arab Emirates, blew $800m on an operation in India whose licence was cancelled after an anti-graft inquiry. To counteract the global slowdown after 2007-08, state banks went on a lending binge in China, India, Russia, Brazil and Vietnam. The resulting bad debts are only now being recognised.

As the balance-sheets of SOEs have grown faster than profits, return on equity has slumped from 16% in 2007 to 12% today, less than the 13% achieved by private firms. China's four biggest banks, with their inflated earnings, flatter this picture. Excluding them, SOEs' return on equity falls to 10%. Cash returns to investors are poor: SOEs' dividends and buy-backs are typically only 10-15% of the global total. Flabby and stingy, SOEs are now priced by investors at about their liquidation value.

For governments and managers of SOEs the immediate task is firefighting. While SOEs' aggregate balance-sheet is passable, some companies are too indebted. Vietnam has had one big SOE default, by a shipyard. Petrobras has net debt equivalent to four times its gross operating profit. Rosneft, a Russian oil firm, must refinance $21 billion of bonds before April. Its bond yields have risen sharply and it wants state aid. Many SOE banks in the emerging world need to be recapitalised.

Next, investment levels and costs need to be cut, so as to lift returns on capital. There is little sign that this is happening yet. Natural-resources SOEs will probably be slower to react to lower commodity prices than their private-sector peers. All state firms find it hard to lay off people—the SOEs among the world's 500 most valuable firms employ 8m, and their workforce has risen by a fifth since 2007. Those in industries facing disruption from the web, particularly banking and telecoms, will probably need redundancy schemes.

Privatisation 3.0

In the longer term, managers need to rethink how firms are run. Interviewed by *The Economist* in April, Xi Guohua, the chairman of China Mobile, talked of introducing incentive-based pay, awarding staff shares and establishing stand-alone units with freedom to innovate. "The old organisation will restrict our development and stand in our way, and we are fully aware of the urgency of such changes," he said.

China Mobile's efforts are part of a wider drive in China to make SOEs more efficient by deregulating prices and interest rates, introducing more private investors and increasing competition. Narendra Modi, India's newish prime minister, has a similar plan to open up Coal India, a notoriously inept monopolist, to competition and to resuscitate India's state-run banks.

Yet at the heart of all these efforts, a tension remains: who are SOEs run for? The public good, as interpreted by politicians? Or shareholders? Only some countries have resolved this, either by the state selling out completely, or by establishing robust mechanisms to keep firms at arms' length from the government, such as at Temasek, Singapore's state holding company. Until this question is resolved the value-destroying impulses of SOEs will remain, and investors will be wary of both established firms and newcomers. That is why, as the box alongside describes, not a single foreign investor took part in Vietnam's latest flotation of a state firm. ■

Vietnam's state firms

Excess baggage

HANOI

The 400 firms the government wants to part-privatise are mostly unappealing

WHEN the government launched an initial public offering of shares in Vietnam Airlines on November 14th, it was hoping that the flotation of one of few companies widely known outside the country would help it speed up a plan to "equitise" hundreds of state firms. However, the IPO, in which a stake of just 3.5% of the airline was on offer, attracted not one foreign investor. Local banks were the main buyers.

State-owned enterprises (SOEs) account for about a third of Vietnam's GDP, in industries ranging from finance to fabrics, seafood-processing to shipbuilding. Not all are duds: Vinamilk, a dairy firm, attracted a number of foreign investors to its successful IPO in 2003, and this September foreign investors bought about half of the shares sold in a $57m IPO of Vinatex, a big textiles firm (though the firm did not sell as many shares as it had wanted).

Nevertheless, the opaque bureaucracies at most SOEs make them breeding-grounds for graft and mismanagement. In the most prominent example, in 2010 Vinashin, a shipbuilder, defaulted on a foreign loan, triggering a downgrade of Vietnam's sovereign debt. Many SOEs are stuffed with "workers" who do little.

The state firms' poor performance means that Vietnam's GDP growth, now around 5.5% a year, is weaker than it should be, given its young and educated population, and its wealth of natural resources. Unusually for a communist country, the prime minister, Nguyen Tan Dung, had to endure a confidence vote in the National Assembly last year over his economic record—and he did poorly.

This year, besides restoring his popularity by standing up to China in a territorial dispute, Mr Dung has breathed new life into a long-standing plan to sell minority stakes in SOEs to private investors, in the hope of making them more businesslike. Ones with IPOs planned for next year include Vietnam National Shipping Lines—two of whose former executives were sentenced to death last year in a drive against corruption. Given the condition many are in, Mr Dung's goal of equitising more than 400 firms by late 2015 is optimistic.

Not such a smooth take-off

Edmund Malesky, a Vietnam-watcher at Duke University in the United States, reckons the government in Hanoi may be pushing forward the equitisations with an eye on the Trans-Pacific Partnership (TPP), a big trade deal now being negotiated, which would oblige member countries to cut subsidies. If floating SOEs made them more efficient, they would need fewer handouts. It would then be easier for Vietnam to sign up to an eventual TPP deal, enabling it to enjoy wider market access for its exports.

The strategy makes sense, but it may be hard to pull off. Vietnam's stockmarket remains one of Asia's smallest, and foreign investors are reluctant to buy shares in firms the state will continue to control, especially those in such areas as energy and transport that it regards as strategic, meaning prone to meddling.

The taxi-app market

Uber-competitive

SAN FRANCISCO

Uber risks a consumer backlash over its tough tactics

DESPITE its tender age of only five years, Uber, an American firm that links taxi passengers to drivers through a smartphone app, already has several records to its name. It has raised $1.5 billion in venture capital and reached a valuation of more than $17 billion. It has expanded to 229 cities in 46 countries. It is rumoured to be bringing in gross revenues of almost $1 billion a month. But it now seems, in record time, to have gone from hero to villain in the eyes of much of the technology press. Praised in its early days for disrupting unreliable, high-cost local taxi monopolies, Uber now stands accused of using unfair tactics against both rivals and critics.

On November 17th it emerged that an Uber executive, Emil Michael, had said at a private dinner that the firm should consider spending $1m to dig up dirt on its critics in the media, in particular Sarah Lacy, the editor of Pando, a tech-news site. Mr Michael has since apologised. Travis Kalanick, Uber's boss, said on Twitter that his remarks showed "a lack of humanity and a departure from our values and ideals", but brushed off calls for Mr Michael to resign.

Although it is hardly an excuse, the remarks were a reaction to a series of highly critical articles on Uber, in particular by Ms Lacy and her publication. She has argued that Mr Kalanick, known for his libertarian views and combativeness, is an example of Silicon Valley's "asshole problem", meaning that venture capitalists increasingly invest in entrepreneurs who know neither scruples nor social graces. Most recently, she accused the firm of "sexism and misogyny" because its branch in Lyon, France, had offered to pair passengers with "hot chick" drivers. She says she has deleted the Uber app from her smartphone.

Uber has never feared controversy. In its drive to disrupt taxi markets it has often ignored local regulations, leading to court-ordered bans on its services. It has emerged that the firm has sent "brand ambassadors" to hire cabs through Lyft, a rival app, who would then either cancel them, or press their drivers to defect to Uber. Mr Kalanick has also admitted to having intervened in its rival's fund-raising attempts by telling potential investors that his firm was also about to raise large amounts of capital.

The network effects in the taxi-app business are strong: as a firm recruits more drivers, this reduces pickup times, which attracts more passengers; this in turn attracts more drivers, since they get more fares on each shift. That winners and losers emerge so quickly explains the need for a degree of ruthlessness. Uber's hardball tactics have helped it pull well ahead of its rivals: by some estimates its revenues are now 12 times those of Lyft, and are growing at ten times the rate.

Technology firms like to say that in their business one must "move fast and break things". Whether it is Uber's attempt to get one over its rivals, Facebook's tinkering with users' privacy settings or Amazon's tough negotiating tactics in its now-resolved price dispute with Hachette, a publisher, ambitious tech firms often seem quite purposefully to be testing the conventions of acceptability. They all risk turning customers, and regulators, against them. But perhaps they have taken note of how the most thick-skinned of low-cost airlines—such as Spirit Airlines and Ryanair—are constantly cursed by customers and media commentators, and yet are highly successful. People may say they are outraged but if the service on offer is cheap and convenient, it will be hard to resist. ■

Executive compensation

If you hire them, pay will come

Surprise: bosses earn more when they hire compensation consultants

WARREN BUFFETT once noted that if you want independent advice, don't ask a barber whether you need a haircut. But if, as a chief executive, you want to earn more, then it makes sense to hire a compensation consultant. Or so concludes a new study from the Judge Business School at Cambridge University.

Though its findings hardly seem a shock, previous studies that tried to link bosses' pay and the use of consultants had found no significant effect. However, this new research was made possible by a rule brought in by America's Securities and Exchange Commission (SEC) in 2009. It says that when a company hires a consultant for advice on both compensation and other matters, it must disclose the fees paid in each case. When consultants are hired solely to give advice on compensation, the fee need not be disclosed.

The reason for this asymmetric rule was that the SEC feared some bosses were in effect bribing consultants to recommend them for pay rises by bunging them lots of other, more lucrative work. Making the fee structure more transparent would discourage the practice, the regulator hoped.

The academics used three tests. First, they compared companies that kept their "multi-service" advisers after 2009 with those that switched to using specialist compensation consultants to advise them on executive pay. Those that switched were found to be paying their CEOs almost 10% more than similar firms that had hung on to their multi-service consultants. One obvious explanation is that the switchers were those firms that had been offering extra business to their consultants mainly to influence their advice on executive pay—for as long as they could do so without revealing it—and that this had worked.

The second test was to look at who chose any specialist pay advisers hired after the rule change. In firms in which the consultants were only chosen by the board, the CEO was paid about 13% less than at similar firms whose CEO also hired a second set of pay advisers.

The third test was consultant turnover. The academics reasoned that "If an increase in pay is associated with a subsequent lower probability of being replaced by a competitor, then consultants indeed have an incentive, on average, to recommend higher pay." The trend was again clear. When CEOs get big pay rises their companies are less likely to replace their consultants in the following year.

All told, the academics found that firms that hire compensation consultants paid their CEOs 7.5% more than those that did not. They concluded that "our study finds strong empirical evidence for the hiring of compensation consultants as a justification device for higher executive pay."

These findings make it a little harder to argue that higher CEO pay is linked to shareholder returns or to greater talent; if that were the case, one would not expect such a clear correlation between pay and the use of consultants. The trend smacks more of the lickspittle courtier of Louis XIV, who, when asked the time, replied, "It is whatever time your majesty pleases." The modern equivalent is, it seems, "Whatever pay your majesty pleases." ■

Oilfield-service firms

Knowing the drill

Two firms that do the oil companies' dirty work are set for a tie-up

OIL companies rarely soil their hands with the business of extracting the hydrocarbons that are their lifeblood. The job of drilling, and constructing and maintaining wells is largely delegated to oilfield-services firms. In a deal agreed on November 17th Halliburton, the second-largest of these in the world, by market capitalisation, is set to buy Baker Hughes, the third-largest, for $38 billion in cash and shares. The deal is set to prompt a round of consolidation in the industry: three days later, Technip, a French oilfield-services firm, said it had bid for a local rival, CGG.

Drilling for oil may be grubby but mastering the technology is lucrative. Schlumberger of France, the biggest of the bunch, made profits of $7 billion on revenues of $45 billion in 2013. The combined revenues of the American firms will be greater, and together they may match its performance. Margins are similar in America, where Halliburton and Schlumberger are equal competitors. In the rest of the world the French firm is bigger, and more profitable.

A marriage with Baker Hughes will give Halliburton economies of scale and the ability to spread its costs more widely. It puts annual savings at $2 billion. The new firm will also match Schlumberger in the breadth of services it offers. Halliburton can plug gaps with two technologies at which Baker Hughes excels: "artificial lift", which boosts the pressure and recovery rate from wells; and speciality chemicals that help oil flow more cheaply and safely.

Joining forces will help the two firms cope with an expected downturn in the industry's fortunes. The oil price has fallen by 30% since June. As a result most big Western oil companies intend to cut capital spending—which means a drop in revenues for the oilfield-services firms. Becoming a one-stop shop on the scale of Schlumberger will make it easier to win contracts from state-owned national oil companies (NOCs), which are an increasingly important source of business.

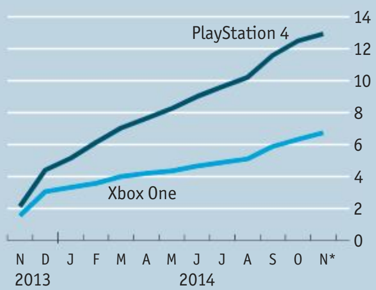
While the oil majors suffer, the NOCs are expanding. NOCs control most of the world's known reserves, and their oil and gas is generally cheap to extract, and thus less sensitive to price swings. Firms under the control of politicians often have other motivations for maintaining investment, such as preserving jobs. Saudi Arabia is pouring cash into drilling for gas to run its power stations.

Oil companies and antitrust authorities are bound to worry about a deal that will cut the number of big competitors in the industry. To appease them, Halliburton is promising to sell businesses with annual revenues of up to $7.5 billion if the takeover goes through. Brad Handler of Jefferies, an investment bank, thinks oil firms may not kick up too much fuss, since they will be less in need of the services companies for the foreseeable future.

As the weak oil price drags down the shares of oilfield-services firms, others may be bought. General Electric has already invested heavily in the business of making drilling equipment, and may thus be keen on buying into the services side. National Oilwell Varco, the biggest rig-hire firm, also plans to diversify. Though their business does not look great at the moment, the long-term outlook for the services firms looks good: as production from some of the world's biggest fields matures, there will be ever more need for the firms' expertise in squeezing out the last drop. ■

In-console-able

Global cumulative sales of gaming consoles, m



Source: VGChartz *Estimate

The releases last November of Sony's PlayStation 4 and Microsoft's Xbox One were seen as the last hurrah of high-end home games consoles. The previous versions of each device had been roundly beaten by the lower-tech Nintendo Wii. And simpler games played on smartphones and tablets were rapidly gaining popularity. Sony's strategy was to make its new console a more sophisticated, specialist device aimed at hard-core gamers. Microsoft went the other way, making the new Xbox a versatile multimedia device, aimed at a broader market. Sony's strategy quickly began to prove more successful: in its first six weeks it sold 4.2m of the new consoles to Microsoft's 3m.

Microsoft replaced the head of its Xbox division and cut its prices. But a year on from the launches, Sony is still far ahead, and IHS, a market researcher, predicts it will stay that way. Still, the Xbox One now outsells the latest version of the Wii, and has done better than previous Xboxes.

Mobile telecoms

The endangered SIM card

Moves to reinvent, or even abolish, the SIM card could have big consequences

APPLE revolutionised online music with the iPod and iTunes. It may be about to transform the payments business, given the successful launch last month of Apple Pay. And the next set of businesses to have their applecarts overturned may be the mobile-telecoms operators. Some of Apple's latest iPads have a new type of SIM card that lets users switch easily between operators without replacing the card. This could seriously weaken the operators' grip on their market, especially if Apple were to follow up by putting the new SIMs in iPhones or replacing them with software.

The job of the SIM (subscriber identity module) is to store some unique numbers and an encryption key, which are used to identify the subscriber when the device is communicating with the network. For as long as wireless networks carried mostly voice calls, SIMs worked well. Their chips are hard to hack: prying them open to get at the stored information can make them self-destruct. Since only mobile operators were allowed to issue SIMs, and were given much leeway over the terms on which they did so, they were able to create monthly payment schemes which subsidised the upfront cost of a handset. This helped mobile telephony to get going, and thereafter provided a mechanism for persuading consumers to keep on trading their old phones for ever more sophisticated new ones.

However, now that most mobile devices can connect through Wi-Fi, their SIM cards no longer seem quite so indispensable. Most tablets, even those with SIM card slots, are not bought from a mobile operator; and the cost and hassle of signing up for a SIM card, so as to use the device when there is no Wi-Fi available, is too much for many buyers. So, Apple's new SIMs are meant to make it easier to sign up for a mobile operator—and to encourage people to choose the pricier iPad models that contain them.

Re-programmable SIMs may also help bring about the "internet of things", in which all sorts of devices, from fridges to cars, will be connected up. Carmakers, for example, would be able to glue the cards into place so they do not shake loose, and also be able to switch to a different operator for their connected-car services without drivers having to install new cards.

Since re-programmable SIMs make it easier not just to sign up with a mobile operator but to switch away from one, the op- ▸▸

erators are wary of the innovation. They have some legitimate security concerns about the new cards. Most would need to make big changes to their billing systems and other back-office functions to adapt to a world in which customers bought their connectivity one gigabyte at a time from a variety of operators, rather than signing a long-term contract. But their biggest fear is that, as they lose control of the customer relationship, margins would surely suffer.

It was only late last year that the GSMA, an association of mobile operators, agreed on a common specification for re-programmable SIMs. Now that Apple is trying out a gadget containing such a card, the operators are watching nervously, to see how consumers react. Of the four biggest wireless carriers in America, only T-Mobile US fully supports Apple's experiment. Verizon decided not to take part. Users of the new iPad can use its re-programmable SIM to sign up for AT&T but will have to install a new card if they want to switch operator later. And those who select Sprint will have to go through a further registration process to activate the service. In Europe only one operator, EE, has agreed to participate so far.

Whatever the outcome, re-programmable cards are bound to spread, predicts Philippe Vallée of Gemalto, the world's biggest maker of SIMs. All sorts of new connected devices are coming along, and operators will have fewer objections to these having the new type of SIM in them. For instance, Gemalto is supplying re-programmable SIMs for a "smart watch" being made by Limmex, a Swiss firm.

The new type of card will gain further momentum if more countries follow the example of the Netherlands, which has just begun to let organisations other than operators issue SIMs, such as utilities and car companies. Germany may be next. If its giant carmakers issued their own SIMs, and rented spare capacity on the operators' wireless infrastructure, they could together save €2 billion ($2.5 billion) a year through lower prices and more flexible contracts, estimates Rudolf van der Berg of the OECD, a think-tank based in Paris.

Going soft

The biggest question is whether re-programmable SIMs will find their way into smartphones—and in what form. Apple fans predict that the firm will soon release an iPhone with a pre-installed card that lets them switch providers. Some hope it will eventually take the next logical step, and replace the card with a softSIM, a piece of software code that does the same job.

Operators would put up stiff resistance to putting re-programmable SIMs, let alone softSIMs, into phones, says Dean Bubley of Disruptive Analysis, a consulting firm. In 2010 Apple was believed to be developing an iPhone that came with such a SIM, but it was reportedly scared off by operators threatening to stop promoting its handsets. Managing SIMs for phones that handle voice calls is much more complex than it is for data-only devices. In many countries, for instance, people have to show an identity card when signing up. The operators' security worries about softSIMs would be even greater than those for re-programmable cards, says Mr Bubley.

Those hoping for the death of the SIM card in its current, inflexible form should be careful what they wish for, and not just for security reasons. Operators would lose control of the market, but Apple and other device-makers might gain it. They would, if regulators let them, be able to choose which operators appeared on the menu when buyers of their phones and tablets were setting them up. The risk would then be that the SIM card's demise leads to less choice, and higher prices for users. ■

Companies in Poland

Growing the Polish Apple

WARSAW

After years of steady growth at home, firms are venturing abroad

NOWY STYL, a Polish company that is Europe's fourth-largest maker of office furniture, recently bought two small German rivals. The firm's boss, Adam Krzanowski, was asked by a German friend if he was pleased with his purchase. "I told him that I was not happy with the quality of the workers. His jaw dropped," says Mr Krzanowski, with a grin. He had to send a team from his factory in Poland to bring his new German workers up to speed on the latest manufacturing methods.

Polish firms have grown in size and confidence along with the economy, which after years of expansion is twice the size, in real terms, that it was when democracy was restored in 1989. Now, at last, some of its firms are looking beyond the domestic market and going global. InPost is rolling out its automated parcel lockers in nine countries, including Britain (see picture), to grab a share of the rapidly growing business of making deliveries for e-commerce firms. Comarch, a Polish IT firm, has set up two data-processing centres in Germany.

Polish businesses are making more efforts to conquer export markets. Pesa, a trainmaker, won a $1.5 billion contract in 2012 to supply Germany's Deutsche Bahn with up to 470 new diesel locomotives. "Nobody believed we could sell the Germans such a high-tech product," says Tomasz Zaboklicki, the firm's chief executive.

A decade ago the most notable foreign ventures by Polish businesses were the result of a strong prod from the government, usually applied to state-controlled firms with political objectives in mind. The results were dire. In 2004 PKO Bank Polski was encouraged to invest in Ukraine, Poland's poorer neighbour to the south-east, during its Orange revolution. In Ukraine's subsequent economic slump, the small bank PKO had bought, Kredobank, suffered a drastic rise in bad loans, eventually forcing PKO to bail it out.

In 2006 PKN Orlen, a state oil refiner, invested $3.7 billion in a Lithuanian plant, with the aim of helping the Baltic states loosen their dependence on Russia. After ▶▶

years of losses, Orlen has written off most of its investment.

Now, the Polish firms venturing abroad, even the state-backed ones, are driven by profits rather than politics. In September KGHM, a copper miner in which the state has a 32% stake, began shipments from a Chilean mine jointly owned with Sumitomo of Japan. This follows KGHM's purchase, in 2012, of Quadra FMX, a Canadian copper and silver miner. In October Grupa Azoty, a fertiliser-maker, announced a plan to make up to ten foreign acquisitions, in Africa and South America as well as in central Europe, to maintain its position in an industry that is consolidating rapidly.

Although a few Polish firms are gaining a profile outside their home country, they are still the exceptions. Of those local manufacturers that export, many are producing materials or parts that end up deep in German cars or consumer products. One problem is that even the largest Polish firms are small by global standards. Another is that most have been reluctant to invest in the research and development needed to take on sophisticated foreign rivals.

"I ask myself, 'Why is there no Polish product which is internationally famous? Why is there no Polish Apple or Google?'," says Andrzej Kozminski, founder of Kozminski University, the country's leading business school. He hopes it is simply a matter of time. In another decade, given Poland's rapid economic growth compared with western Europe's, its businesses may become large enough that foreign ventures like those of Nowy Styl will become common. If so, more German workers will have to get used to Polish bosses. ■

Canada's natural-resources companies

Reputation management

OTTAWA

The government promises to keep promoting miners' and energy firms' interests abroad if they behave themselves

FEW governments have aligned their interests so closely to those of their country's energy and mining firms as Canada's Conservative administration. The prime minister, Stephen Harper, has boasted of Canada as an "emerging energy superpower". Under the banner of "responsible resource development", his government has done its best to ease the way for minerals firms, at home and abroad, including directing some foreign aid to countries where Canadian firms wanted to drill. Ministers point with pride to the C$174 billion ($169 billion) in export revenues from sales of minerals, oil and gas in 2013 and to the fact that Canada is home to more than half of the world's publicly listed exploration and mining companies.

But the downside of seeming so cosy with extractive firms is that whenever one of them gets in trouble—an inevitable occurrence with 1,500 firms active in more than 100 countries—the country's image is tarnished too. So the government has recently begun to reduce that vulnerability by taking a stricter line on corporate social responsibility (CSR) and bribery by Canadian firms operating abroad. Protecting the national brand is "a huge part of it," says Andrew Bauer of the Natural Resource Governance Institute, a group that monitors the industry and lobbies for openness.

Ed Fast, the international trade minister, admitted as much on November 14th, as he introduced new rules that require Canadian resources firms involved in disputes with local communities to take part in a resolution process. If any firms refuse, the government will withdraw its economic diplomacy on their behalf.

In Mr Fast's eyes, Canada's brand shines like a freshly minted ingot, and simply needs to be preserved rather than restored. Campaigners beg to differ. They note a slew of protests against Canadian firms' projects, from Romania (pictured), where environmentalists are objecting to plans for an opencast gold mine, to Guatemala, where guards at a nickel mine have been accused of gang rape.

The government is also promising to strengthen the mandate of its official "CSR counsellor", whose job is to advise resources firms and mediate in their disputes. The post has been vacant for a year, and the previous incumbent made little progress because the companies were not obliged to co-operate. The move did not go far enough for some campaigners, who had wanted the counsellor to be made independent of government.

Still, they had better luck with a new law introduced last month, to curb bribery by mining and energy firms by demanding more transparency from them. The law, which still must be fleshed out in detailed regulations, requires them to disclose all payments made to domestic and foreign governments. It brings Canada broadly into line with British legislation and with rules being contemplated by the US Securities and Exchange Commission. It helped that the law was backed by an unusual coalition of non-government organisations and mining companies themselves. The legislation "is pretty faithful to our recommendations", says Pierre Gratton, head of the Mining Association of Canada.

It seems that the miners' experience in dealing with local communities is making them more sensitive to their concerns about corruption and other ills. In contrast, the oil and gas firms are lobbying for the transparency law to be weakened. They want to be given exemptions in countries whose local laws conveniently prohibit the disclosure of such payments. They also want to avoid having to give a project-by-project breakdown of their payments, without which the information would be of little use. There is still room for backsliding by a government that is unashamedly business-friendly. But a public plea for it to stand firm, from a former Shell executive, may yet stiffen ministers' spines. A watered-down transparency law would certainly take the shine off Canada's brand. ■

...but not in Canadian miners

Schumpeter | The tyranny of the long term

Let's not get carried away in bashing short-termism

THE sheep in "Animal Farm" repeat the slogan, "Four legs good, two legs bad". In the management world these days, the chant is "Long-termism good, short-termism bad". The *Harvard Business Review* constantly thunders against the evils of short-termism. Bosses of listed companies give off-the-record briefings to journalists bemoaning shareholders' inability to see beyond the ends of their noses. In the continental European model of capitalism, long-termism means that businesses will prosper by pursuing the enduring interests of all their "stakeholders", workers and suppliers included. More recently, supporters of Anglo-Saxon capitalism have produced a variant of this argument: firms will enjoy sustained growth if they favour the interests of long-term shareholders over traders who hold stock for briefer periods.

This is not merely rhetoric. Policymakers are drawing up plans to give long-term investors more shares, more voting power or tax incentives. France already has a rule that gives extra voting rights to long-term shareholders; and the European Commission is mulling something similar. The Delaware Supreme Court—which sets the tone of much American corporate law because so many companies are registered in that state—has endorsed the view that a firm's owners are those who have held its shares for a long time (though it has not said how long), rather than those who happen to own them at any given moment.

It is easy to see why long-termism has become so fashionable. Repeated financial-market crises, including the one in 2007-08, have reinforced a view that short-term traders are nothing but trouble. Germany's relatively strong performance over the past decade seems to be an affirmation of its stolid corporate virtues. But there is a danger in going too far.

Long-termism is no guarantee of success. In the 1980s fans of Japan's economic model argued that it would pull ahead of America because its firms preferred slow consensus-building and could rely on their core shareholders, the banks, to stand by them for the long term. But between 1990 and 2013 the American economy grew by 75% in real terms, whereas Japan's only managed 24%.

In 1994 Jim Collins and Jerry Porras, two management pundits, published a hymn to long-termism in "Built to Last". The book describes 18 companies whose shares had consistently outperformed stockmarket indices over decades, in large part because they invested heavily in such things as research and training, and set goals that were also measured in decades, not quarters. But a follow-up study five years later discovered that only eight of them had kept on outperforming the market. Today many of their exemplars are struggling. IBM is treading water, Motorola is a shadow of its former self and Procter & Gamble has been forced to bring back a retired boss, A.G. Lafley, to sort it out.

Long-termism can be an excuse for failing to grasp the nettle. Nokia, a Finnish mobile-phone giant, left a floundering boss, Olli-Pekka Kallasvuo, in place for four years despite growing protests from investors. By the time it got around to replacing him in 2010 the company was damaged almost beyond repair. Short-term demands such as quarterly reporting schedules can force problems out in the open, the quicker to get them fixed. We might still be in the dark about Tesco's accounting fiasco if the British grocer did not have to update investors on its performance every few months. More important, short-termism can allow "creative destruction" to work its magic. The United States has been better than other countries at producing world-beating startups because it is better at shifting capital quickly to new opportunities.

Perhaps the strongest argument for rewarding long-term investors is that they think more about sustained growth, whereas short-term ones will sacrifice this for a quick buck. This is true if companies do not trade in their own shares, says Jesse Fried of Harvard Law School. However, he argues that this argument breaks down when firms become enthusiastic repurchasers of their own shares, as American companies have: last year those in the S&P 500 index bought back $500 billion of their own stock.

His explanation is as follows: companies repurchase their shares when they think they are cheap, as a way of benefiting their long-term holders at the expense of those who sell. As it happens, their timing is often poor. However, what is more important is that the cash they spend on repurchases could often have been used on expanding into new markets, or on research and development, to generate long-term growth. One study found that a doubling of repurchases leads to an 8% fall in spending on R&D.

Terms and conditions

All this is not to say that we should start chanting: "Short-term good, long-term bad". Rather, it is an argument for nuance. Long-termism and short-termism both have their virtues and vices—and these depend on context. Long-termism works well in stable industries that reward incremental innovation. But it is a recipe for failure in such businesses as social media, where firms are constantly forced to abandon their plans and "pivot" to a new strategy, in markets that can change in the blink of an eye.

Nor are long-termism and short-termism mutually exclusive. General Electric, often praised for its long-term perspective, is trying to run itself more like a startup, to combat bureaucratic bloat. In recent years activist investors have repeatedly bought stakes in big firms, from Yahoo to Fortune Brands, and agitated for a shake-up. Long-term institutional investors, seeing the merits of their arguments, have often backed them.

Making sweeping statements about the virtues of long-termism and the vices of short-termism is a satisfying pastime: it confers a sense of moral seriousness and intellectual depth. But it is a poor way of analysing the dynamics of wealth creation—and it is an even worse way of designing corporate policies. ■

Also in this section

The People's Bank of China

Covert operations

BEIJING

China's central bank is wary of easing monetary policy, but that is what the economy needs

IN BEIJING, a city of grandiose government offices, the central bank stands out for its modesty. Its headquarters are small and dated; plans for a big, gleaming extension have so far come to nothing. Cramped as they are, however, these digs are an apt symbol of the central bank's restraint.

For nearly four years the People's Bank of China (PBOC) has classified monetary policy as "prudent", which is supposedly a neutral stance—not too tight, not too loose. In reality it has been tightening, to cool an overheated property market and slow the alarming accretion of debt. At the same time, the central bank has chipped away at vestiges of central planning with changes to its currency and interest-rate regimes. The PBOC is far from independent, but under Zhou Xiaochuan (pictured), its governor since 2002, it has acquired real clout as it has doggedly pursued its dual objectives of restraint and reform.

These two aims were complementary in 2011, when the central bank first embraced prudence. Nominal growth was still running at 18%, a heady pace even by Chinese standards; slowing breakneck investment was essential. Yet times have changed. The economy is now on track for its weakest year since 1990, sliding below the government's goal of 7.5% growth; inflation is at a five-year low, nearly two percentage points below the official 3.5% target. The central bank faces mounting calls to lower rates. But advisers say it fears sending the wrong message: by easing, it might signal an end to restraint and, by extension, to reform.

The central bank's answer to this dilemma has been to loosen monetary policy, but in a covert fashion. It lent the state-owned China Development Bank one trillion yuan ($163 billion), according to rumours that dribbled into local media in June. Some likened it to Chinese-style quantitative easing (QE): the central bank had in effect printed cash to rev up growth. But whereas central banks in developed economies have explained every step of their QE schemes to markets, the PBOC did not even bother to announce its activity.

Then, in September and October, it launched a "medium-term lending facility", injecting a further whack of cash—769.5 billion yuan, it turns out—into the economy via loans to commercial banks. Rumours spread for weeks before the central bank confirmed them on November 6th. As for the initial trillion-yuan loan, it eventually acknowledged the operation, though declined to say how much it had lent, at what rate or even to which bank.

Business as usual

China's money and lending rates, %

Sources: Thomson Reuters; PBOC
*Latest available

The combined amount of the infusions, if as big as reported, would be huge—equal to more than three months of America's now-completed QE scheme when it was at its height, or to five months of Japan's current programme. The impact of China's easing, however, has been underwhelming. It has not reached the real economy. Short-term interest rates have fallen: a closely watched interbank rate is down by almost two percentage points this year, to 3.2% (see chart). But the rate at which banks lend to businesses, which matters more for growth, has remained stuck at about 7%.

The central bank's lack of transparency has sown confusion. "The more policy tools you have, the harder it is to predict changes in any one of them," says Song Yu of Goldman Sachs. A recent Barclays survey ranked the PBOC third-worst of 14 big central banks in terms of communication, behind only Turkey's and Russia's.

Even when providing partial confirmation of its covert easing, the PBOC's message was muddled. The purpose was "to guide banks to lower lending rates", it said, an apparent indication of an intention to relax policy. But in the next breath it added that the easing was to compensate for a decline in capital inflows, in order to "maintain a neutral, appropriate level of liquidity"—that is, to keep policy unchanged.

The central bank is right to be concerned about debt. Economy-wide debts have soared to 250% of GDP, up by 100 percentage points since 2008. Increases of that ▸▸

magnitude have presaged financial crises in other countries, so tighter policy would seem in order. Yet real interest rates have climbed to more than 8% for industrial companies, since the prices at which they sell their wares are actually declining. That, in turn, makes debts much harder to service than anticipated. Cutting interest rates while enforcing capital rules to prevent banks from issuing a gusher of new loans would be a better way to rein in debt.

The PBOC has talked instead of "fine tuning" monetary policy and making it more "targeted". The loan to China Development Bank appears to have been earmarked for public housing, which local governments have struggled to fund. To borrow from the "medium-term facility" banks were said to be obliged to reduce mortgage rates. In other words, having let air out of the property market, the PBOC now seems to be pumping it up again. "The problem is that there's no clear framework for monetary policy. They are feeling their way through," says Zhang Bin of the Chinese Academy of Social Sciences. "If you change targets, you should explain why."

In the background are questions about the future of the long-serving Mr Zhou. He was due to step down in 2013, having reached the official retirement age of 65. When his term was extended, it was seen as an endorsement of his reformist agenda. But a few months ago, word spread in Beijing that he might soon be replaced. Some even suggested that he had pushed too hard to deregulate interest rates.

People familiar with the PBOC say that talk of Mr Zhou's imminent retirement has since died down. Yet he will eventually depart. His legacy will be extremely positive overall: he has presided over an era of rapid growth, stable inflation and progress in financial reforms. But his final years in office are turning into a bit of a muddle. ■

Buttonwood | Thinking outside the Bank

Powerful central banks are subject to their own biases and failings

THE world expects a lot of its central bankers. Politicians demand that they control inflation, keep the economy growing and the financial sector stable. At times, central banks seem to do all the work: it was Mario Draghi of the European Central Bank, not the leaders of Germany and France, who stopped the sell-off in euro-zone bond markets in 2012, for example. Sometimes politicians seem to be sabotaging the central bankers, tightening fiscal policy when the banks are easing to help the economy.

But can we rely on central bankers to get things right? They are subject to the same behavioural biases as the rest of us. That is the theme of a recent, thoughtful speech* from Andrew Haldane, the Bank of England's chief economist.

There are various mechanisms to ensure the bank acts in a considered and rigorous manner. It is accountable for its actions. Its goals are set by Parliament and if it misses its inflation target, the governor has to write a letter to the chancellor of the exchequer, Britain's finance minister, explaining why. Decisions on interest rates are made by a committee, which includes academics and economists from outside the institution—a way of avoiding groupthink. At least one member of the committee has dissented at around half of all meetings.

But there have still been failings, as Mr Haldane freely admits. It is obvious in retrospect that problems were building in the banking sector in 2005-06. Leverage had risen and the regulations of the time served to obscure the nature of the risks the banks were taking. Mr Haldane has emphasised how important banks were in fuelling the crisis in an earlier speech.** Yet in the decade preceding the financial crisis of 2007-08, the minutes of the monetary-policy committee's meetings suggest that it spent just 2% of its time discussing banks.

The central bank moved centre-stage in the aftermath of the crisis, providing liquidity to struggling banks, pushing interest rates to their lowest level in its 300-year history and buying £375 billion ($590 billion) of British government bonds. Given the scale of its interventions, it was imperative for the bank to get its economic forecasts right. But as Mr Haldane admits, it did not. "Since the crisis, the bank's forecast errors for output and inflation, like those of external forecasters, have tended to be one-sided and serially correlated."

Mr Haldane describes this as a hubris bias. Before 2007, during the period known as the Great Moderation, the bank's forecasts were highly accurate. This may have led to overconfidence in its predictive powers. Its inflation report shows fan charts showing the likely outcomes for economic variables; since the crisis, half of all outcomes have occurred in the outer 20% of its forecasts.

Most notably, inflation exceeded the 2% target for four consecutive years, even though the bank consistently forecast that it would return to target in 18-24 months. The central bank took no action to bring inflation back down during that time, on the understandable grounds that tightening policy would cause considerable economic damage. Still, it is hard to describe something as a "target" in such circumstances. Were a husband to tell his wife that he had a target of being faithful, had failed to meet it over the previous four years, but hoped to do so over the following two, the marriage would be pretty short-lived.

To his credit, Mr Haldane is trying to address the problem, attempting a "cultural revolution". Instead of using research to support the bank's view, it will in future "put into the public domain research and analysis which as often challenges as supports the prevailing policy orthodoxy". This new approach "will act as another bulwark against hubris, overconfidence and groupthink".

But this is a tricky path to tread. On the one hand, the bank's every statement is pored over by the markets for signs of future policy changes, so the publication of out-of-the-box thinking might only lead to confusion in investors' minds. On the other hand, the central bank may well need fresh thinking to get its forecasts right. The big new hope for monetary policy is "forward guidance"—a steer from the bank on the outlook for interest rates two years, rather than just one month, ahead. Forward guidance is useless if the bank has no better vision of the future than a funfair psychic.

* "Central bank psychology", speech at the Royal Society of Medicine, London, November 17th 2014.
** "Containing discretion in bank regulation", speech at the Federal Reserve Bank of Atlanta conference, April 9th 2013.

Economist.com/blogs/buttonwood

Corporate venture capital

If you can't beat them, buy them

Fear of being displaced by startups is turning firms into venture capitalists

WHAT do a Braille printer made out of Lego and a drone that helps farmers monitor crops (pictured) have to do with chipmaking? Intel Capital, the venture-capital VC unit of the American technology giant, is not quite sure yet but it wants to find out. It recently announced it was taking stakes in 16 startups, including the firms making these products. Intel has been in the venture-capital business for over 20 years, and has invested in more than 1,300 companies in 56 countries. Over that time corporate enthusiasm for venture capital has waxed and waned—but has seldom been greater than it is now.

Companies as diverse as convenience stores (7-Eleven), chemists (Boots), financial firms (Visa and Citigroup) and carmakers (BMW) are all getting into the game. They are looking for quicker, cheaper and better sources of innovation than R&D, which often disappoints. In return, the startups they invest in benefit from their capital, expertise and connections. Over the past five years the number of corporate-venture units worldwide has doubled to 1,100; 25 of the 30 firms that comprise the Dow Jones Industrial Average have one. The $6.4 billion such units have invested so far this year is over 60% more than they did in 2012. America's corporate investors have been involved in 18% of the country's venture-capital deals this year.

Sceptics see a bubble. Three previous booms, which coincided with ones in conventional venture capital, ended in tears—in the late 1960s, the early 1980s and, most spectacularly, during the dotcom bubble, when a staggering $21 billion was invested in 2000 alone. After each bust, venture units were mothballed or shut.

Believers say the likes of Intel Capital and Google Ventures have learned to use their expertise rather than just their deep pockets. This boom is also driven by necessity, says Dörte Höppner of the European Venture Capital Association. Disruptive innovation has become the single biggest worry for many firms. Setting up VC arms is a way to identify life-threatening changes to their business early, so that they can adapt or, better yet, get in on the act, says Ben Veghte of America's National Venture Capital Association, whose membership has mushroomed in recent years.

Perhaps as a result, the new generation of venture units looks better integrated with their parents: instead of chasing the next Facebook (or drone), they tend to invest in industries related to the firm's main business. IBM, for instance, has set up a $100m fund to back startups that use the technology behind Watson, a computer that can communicate in colloquial language. It has already invested in Welltok, a health-care startup which has invented an app which uses the technology to analyse users' habits and give medical advice.

There are some indications that corporate VC is working better than in the past. Startups backed by firms are more likely to list their shares than those championed by conventional venture groups. A bank in Silicon Valley estimated last year that corporate VC yields three times the number of patents per dollar invested than in-house R&D. The longevity of corporate VC arms is also increasing: the average age is now five and 120 have lasted a decade or more. That makes them hardier than many chief executives. ■

Business-development companies

Shadowy developments

NEW YORK

In the gap left by embattled banks, an alternative emerges

IT IS a common gripe among businessmen that although central banks in the rich world have done their damnedest to bring down interest rates, many firms still struggle to borrow, as battered banks curb lending in an effort to shore up their capital. In America, one beneficiary of this unfortunate squeeze on credit is a form of mutual fund that lends to businesses, known as a business-development company (BDC). BDCs have been around since the 1980s but have recently multiplied. More than 50 of them are now listed, with a combined market capitalisation in excess of $35 billion (see chart).

Developing fast

US business-development companies

Market capitalisation, $bn

Source: MLV & Co *As of November 19th

BDCs are allowed to borrow as much money as they raise from shareholders, usually through fixed-rate bonds, so the total amount at their disposal is approximately $70 billion. That is not much. The industry's total valuation is only a quarter of Citigroup's, and were they to lend out this entire sum, it would equal just 4% of America's commercial and industrial loans. In reality, some of their money is invested in shares and some goes into property, so their impact is even smaller.

Still, BDCs are big enough to be receiving attention from businesses hungry for capital and willing to pay interest of 10% or more to get it, as well as from investors hungry for dividends, which can also exceed 10%. That is more than four times the dividend on the average stock and more than double the yield of even a junk bond.

The high payout comes with a caveat, however. Because BDCs are classified as a fund, they pay no corporate tax, unlike a bank. To preserve this status, they must distribute 90% or more of their income each year. As a result, building up their capital base is a slog. So too is finding good customers for loans, since they do not offer the prosaic products like current and payroll accounts through which banks typically acquire their customers. Many BDCs specialise in financing the acquisitions of private-equity firms. That helps to keep down costs, as they make big loans to just a few customers. But it can also suppress returns, as there is lots of competition to back private-equity deals.

Although BDC's limited borrowing makes them safer than banks, they also suffer from higher defaults. As a result, when the financial markets become volatile, and in particular when the market for high-yield debt wobbles, their shares slump and they struggle to raise capital.

Another quirk is that all but a handful of BDCs do not have internal managers; instead, they farm out their management to notionally independent firms. The managers' compensation under such deals is often opaque but lavish. Indeed, charges akin to the "2 and 20" that hedge-fund managers once typically extracted (a man- ▸▸

The Greek economy

Grecovery

Political uncertainty could trip up the euro zone's new star performer

THE euro area stayed in the doldrums in the third quarter, according to data released on November 14th. Output rose by 0.2% compared to the second quarter, equivalent to just 0.6% on an annualised basis. That was only slightly faster than the meagre 0.1% growth in the second quarter (0.3% annualised). Against this dismal backdrop there was one nice surprise: of the 14 countries in the 18-strong currency union that reported data, Greece fared best, growing by 0.7%.

It turns out that the Greek recovery started in the first quarter of this year, when it grew even faster, by 0.8%, according to the new figures (for technical reasons quarterly figures had been suspended since 2011); it then slowed to 0.3% in the second quarter. The upturn has meant that the economy is now growing on a yearly basis (see chart). Apart from a blip in early 2010 just before the first of two bail-outs, this is Greece's first spell of annual growth since the start of 2008. Between the pre-crisis peak, in the second quarter of 2007, and the trough at the end of last year, GDP contracted by 27%, a decline rivalling America's in the early 1930s.

Out of the abyss

Greek:

Sources: Eurostat; European Commission; Haver Analytics

*Forecast

Even though the euro zone as a whole is doing badly, the Greek recovery looks set to continue, at least in the short-term. An economic-sentiment index compiled by the European Commission stood at 102 in October, well above its level a year before, when it was 92, let alone during the worst of the euro crisis, when it sank below 80. Since the indicator tends to track GDP growth this suggests a decent start to the current quarter.

According to the commission's forecast in early November, the recovery should strengthen next year, when it expects the economy to grow by 2.9%. Growth would come from higher household consumption and investment, as austerity eases, together with a boost from net exports.

That upbeat outlook may be undermined by political uncertainty, however. The coalition government led by Antonis Samaras, which steered the country away from the abyss after two fraught elections in 2012, could fall next year, possibly as early as February.

Opinion polls suggest that the next one may be led by Syriza, a left-wing party whose policies would put it on a collision course with the euro zone's creditor countries, especially Germany. Already, ten-year government-bond yields, which had fallen below 6% during the summer, have risen above 8% as investors worry about the country's political prospects.

The foundations of this year's growth were laid when the threat of a Grexit was removed. Should the jitters return, the Grecovery will surely wobble too.

agement fee of 2% of assets and a performance fee of 20% of profits beyond a certain threshold) remain common.

Triangle Capital, based in Raleigh, North Carolina, is an exception. Last year it returned 18% on equity by backing private companies in the region, with both debt and equity. It is managed in-house, and provides transparent accounts, complete with details on managers' pay. Triangle's market capitalisation is far greater than the value of its assets; BDCs with external managers typically trade at a discount.

For the industry to continue growing, reckons Christopher Nolan of MLV & Co, an investment bank that focuses on it, BDCs must make two changes. First, they should align the interests of owners and managers better. Second, they should ally with banks, which have lots of loan-hungry clients but less appetite for risk.

A bit of financial engineering might spur such partnerships: loans could be sliced up to create a high-yielding but riskier portion for BDCs while leaving the safer and less lucrative bit with banks. Regulators are keen on the idea of transferring risk from outfits with flighty, government-insured funding, such as deposits at banks, to ones with more stable, loss-absorbing backers, such as the shareholders of BDCs. Building arrangements of that sort on any scale will take time, but a foundation is starting to emerge. ■

Behavioural economics

Lying, cheating bankers

Talking about their work makes bankers more dishonest

"IF YOU can only be good at one thing, be good at lying…because if you're good at lying, you're good at everything." Thus a wag imagined one investment banker advising another in a lift. He may not have been far wrong.

In an experiment published by *Nature* this week, 128 bankers with an average of 12 years' experience in the industry were split into two groups. The "control" group was asked a series of anodyne questions—for instance, how many hours of television they watched each week. The "treatment" group was quizzed on their work at their bank.

Each banker was then asked to toss a coin in private ten times and report the results. For each toss they could win $20, depending on whether the coin landed on "heads" or "tails". (If it landed on the wrong side, they got nothing). The bankers reported the results of their ten flips on a computer, and received payment automatically. With enough lucky flips—or shameless lying—a banker could easily make $200 in a matter of seconds.

In both groups, workers from the red-blooded bit of banking—traders and the like—were more dishonest than those in ancillary jobs. Overall, however, the control group was quite honest: they reported that 52% of their tosses had been winners, only slightly above the probable outcome of 50%. The treatment group, in contrast, said that they had got lucky 58% of the time. Nearly a tenth of the treatment group claimed the full $200, despite there being a one-in-a-thousand chance of this happening to an honest flipper.

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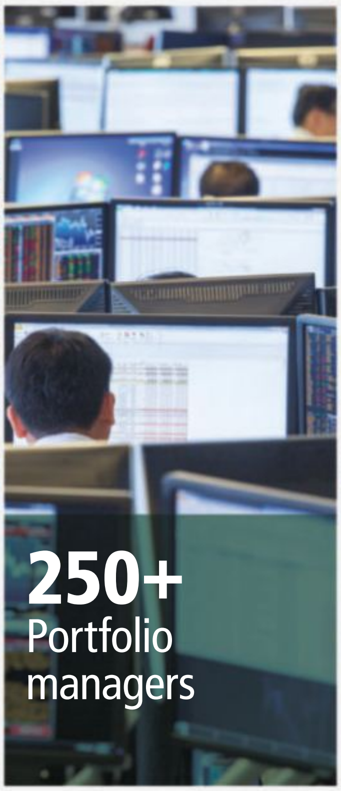

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It was not merely talk of stocks and shares that made people more deceitful: when the authors tried that trick on non-bankers, there was no effect. And people in other professions—say, those in computing and pharmaceuticals—did not become more dastardly when the researchers asked them about their work.

The authors posit that the discussion of work may have put the treatment group into a more materialistic frame of mind: more of them than in the control group agreed with the notion that social status was primarily determined by financial success, for example. Another possibility, about which the authors are sceptical, is that the people in the treatment group were more prepared to lie because their professional identity had taken centre-stage; the feelings of the person inside the suit became less important.

Banks say they are trying to stamp out dishonesty among their staff. Some now make employees attend ethics classes. The researchers want bankers to take the financial equivalent of the Hippocratic Oath, doctors' promise to "do no harm". The Netherlands introduced one at the beginning of 2013, in which moneymen solemnly affirm their "responsibility towards society". But it may not be the bankers who are the problem so much as the setting. ■

Mobile payments

The cheque is in the tweet

SAN FRANCISCO

Sending and receiving money on your smartphone is getting easier

HANDLING small transfers between individuals is not an especially big or lucrative part of the financial system, but it is a faddish one. On November 17th Snapchat, a popular app that lets users send each other photos that disappear after a few seconds, introduced a new service called Snapcash that allows them to transfer money (with luck, no vanishing is involved). The news comes hot on the heels of the announcement from Groupe BPCE, a French bank, that its customers will soon be able to send each other money via Twitter, a microblogging service. Facebook, a social network, has similar plans; Apple, which recently launched a payment service, may also join the fray.

Person-to-person (P2P, in techno-speak) payments are growing fast. Last year Forrester, a market-research firm, predicted that mobile P2P payments in America would amount to only $4 billion a year by 2017. Now it expects the market to reach $5 billion this year and to grow by 26% a year, to reach $17 billion by the end of 2019. (Two-thirds will be domestic transfers, the rest international remittances.) Venmo, a P2P startup now owned by PayPal, an online-payments firm, says that it transferred $700m in the third quarter of the year, 50% more than in the second.

Using mobile phones to send cash is nothing new. The granddaddy of such services is Kenya's M-PESA. Launched in 2007, it is now used by more than 17m Kenyans, equivalent to more than two-thirds of the adult population. PayPal has had a mobile-payments app for some time and is the market leader in America. Big banks have also entered the P2P business, with services such as Popmoney in America and Paym in Britain.

What is changing is that such services are getting ever easier and faster to use, with some now offering instantaneous payments. In the case of Square Cash users open an account with their debit card and can send money to any e-mail address or mobile phone number (recipients need to open an account, too). Snapcash allows users to flick money to their friends by dragging images of notes around the screen of their smartphone.

Venmo is an example of another trend: it makes mobile payments "social", in that it allows groups to split bills easily at restaurants, say, and share information about transactions. The app lets users send messages along with payments ("To Misha and Nina, for such a fun evening") and make them—although not the sum involved—visible to friends. Although all this may make older users yawn or cringe, younger ones, the majority of Venmo's customers, seem to like it.

The ease of use and the social element raise concerns about security. Snapchat does not have the best record in this respect: in October tens of thousands of supposedly vanished photos sent via the app appeared online. But providers point out that their services run on regulated payment platforms, where all the sensitive data are kept. Snapchat, for instance, uses Square, a payments firm, which also operates Square Cash. All services impose a limit on transfers: in the case of Snapcash it is $250 a week (although that can be raised to $2,500).

Another burning question is how all these services will make money. Some charge fees. Popmoney, for instance, sets you back $0.95 per transaction. Others may introduce premium services, try to monetise the data they gather on payments or sell advertising. But consumers, at least for domestic transfers, will come to expect real-time, free P2P services, predicts Denée Carrington of Forrester. "Nearly all offerings are loss leaders," she says.

All this is a threat to banks, reckons Ms Carrington: they want to remain the main conduit for consumer spending and money transfers, which is why most now have their own P2P payment offerings. But what if consumers, in particular the younger ones, prefer the services of newcomers? In some circles in America "Venmo" is already used as a verb, as in "Can you Venmo me some money?" ■

Correction: Our chart on page 4 of last week's special report on the Pacific contained two errors. It mixed up the direction of eastbound and westbound trade; and its definition of Europe (derived from IMF figures) understated the level of trade between that region and the Americas. In the accompanying text, we should have said, "since the 1980s trade across the Pacific has far outrun the Atlantic sort." A corrected version of the chart is online. Also, in the diagram on page 8 of the report, TTP should have read TPP. Apologies.

Free exchange | No country for young people

Demography may explain secular stagnation

IN THE late 1930s economists trying to explain how a depression could drag on for nearly a decade wondered if the problem was a shortage of people. "A change-over from an increasing to a declining population may be very disastrous," said John Maynard Keynes in 1937.* The following year another prominent economist, Alvin Hansen, fretted that America was running out of people, territory and new ideas. The result, he said, was "secular stagnation—sick recoveries which die in their infancy and depressions which feed on themselves and leave a hard and seemingly immovable core of unemployment."

A year ago Larry Summers of Harvard University revived the term "secular stagnation" to describe the rich world's prolonged malaise. Weak demand and excess savings were making it impossible to stimulate growth with the usual tool of low short-term interest rates, he argued. Demographics may play a central role in the ailment Mr Summers described—indeed, a more central one than in the 1930s.

An ageing population could hold down growth and interest rates through several channels. The most direct is through the supply of labour. An economy's potential output depends on the number of workers and their productivity. In both Germany and Japan, the working-age population has been shrinking for more than a decade, and the rate of decline will accelerate in coming years (see chart). Britain's potential workforce will stop growing in coming decades; America's will grow at barely a third of the 0.9% rate that prevailed from 2000 to 2013.

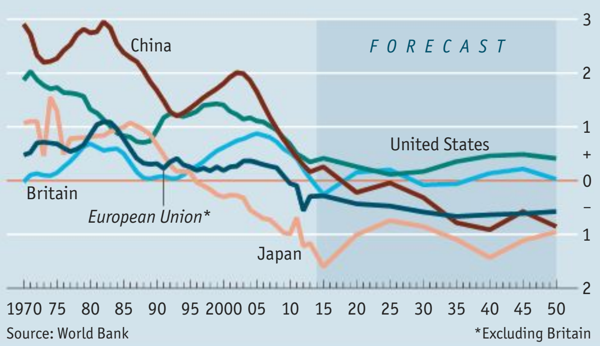
All else being equal, a half percentage-point drop in the growth of the labour force will trim economic growth by a similar amount. Such an effect should be felt gradually. But the recession may have accelerated the process by encouraging many workers to take early retirement. In America the first baby boomers qualified for Social Security, the public pension, in 2008, on turning 62. According to several studies, this can probably explain about half the drop since then in the share of the working-age population either working or looking for work, from 66% to below 63%. (This echoes the experience of Japan, which slid into stagnation and deflation in the 1990s around the same time as its working-age population began to shrink.)

The size and age of the population also influences how many customers and workers businesses can tap, and so how much they will invest. Keynes and Hansen worried that a falling population would need fewer of the products American factories made. Contemporary models of economic growth assume that firms need a given stock of capital per worker—equipment, buildings, land and intellectual property—to produce a unit of output. If there are fewer workers to hire, firms will also need less capital.

In a research note, Eugénio Pinto and Stacey Tevlin of the Federal Reserve note that net investment (gross investment minus depreciation) is close to its lowest as a share of the total capital stock since the second world war. This is partly cyclical, since the recession led businesses to curtail expansion plans. But it is also secular. Growth of the capital stock slowed from 3.1% a year in 1994-2003 to 1.6% in the subsequent decade. The economists attribute about a third of the deceleration to slower growth in the workforce, and the rest to less innovation. In other words, businesses are buying less machinery because they have fewer workers to operate it and fewer technological breakthroughs to exploit.

The vanishing worker

Working-age population, % change on a year earlier



Source: World Bank

*Excluding Britain

Online: For an explanation of *secular stagnation* in graphics, visit **Economist.com/stag14**

A borrower's world

The third means by which demography can influence growth and interest rates is through saving. Individuals typically borrow heavily in early adulthood to pay for education, a house and babies, save heavily from middle age onwards, and spend those savings in retirement. Coen Teulings of Cambridge University has calculated what various countries' collective savings should be given their demographics. Higher population growth and shorter retirements require less saving; older populations more.

For America, the required stock of savings equalled -228% of GDP in 1970: households should have been borrowers rather than savers since their relative youth and lower life expectancy meant they had ample future income to repay their debts and finance retirement. But as the population aged, its growth slowed and time in retirement lengthened thanks to increased lifespans, the required level of savings rose to 52% of GDP in 2010. For Japan, required savings went from -176% to 119% of GDP in the same period, Germany's from 189% to 325%, and China's from -40% to 86%.

The simultaneous effort by so many countries to save for retirement, combined with weak investment, slowing potential growth, fiscal retrenchment, corporate cash hoarding and inequality (which leaves more of the national income in the hands of the high-saving rich) is depressing the "equilibrium" interest rate that brings investment and saving into balance. There is, however, at least one obvious policy fix. "A higher retirement age reduces saving," Mr Teulings and Richard Baldwin of the Graduate Institute in Geneva write in a recent e-book. "There simply is a limit to the extent to which we can save today in exchange for leisure and high consumption tomorrow. Somebody has to do the work tomorrow; we cannot all be retired by that time."

Moreover, at some point, an ageing population starts to use up the savings it has accumulated. Charles Goodhart and Philipp Erfurth of Morgan Stanley note that the ratio of workers to retirees is now plunging in most developed countries and soon will in many emerging markets. Japan is already liquidating the foreign assets its people acquired during their high-saving years; China and South Korea are starting to do so and Germany will soon. This, they predict, will drag real interest rates, which are now negative, back to the historical equilibrium of 2.5-3% by 2025. ■

* Studies cited in this article can be found at www.economist.com/stagnation14

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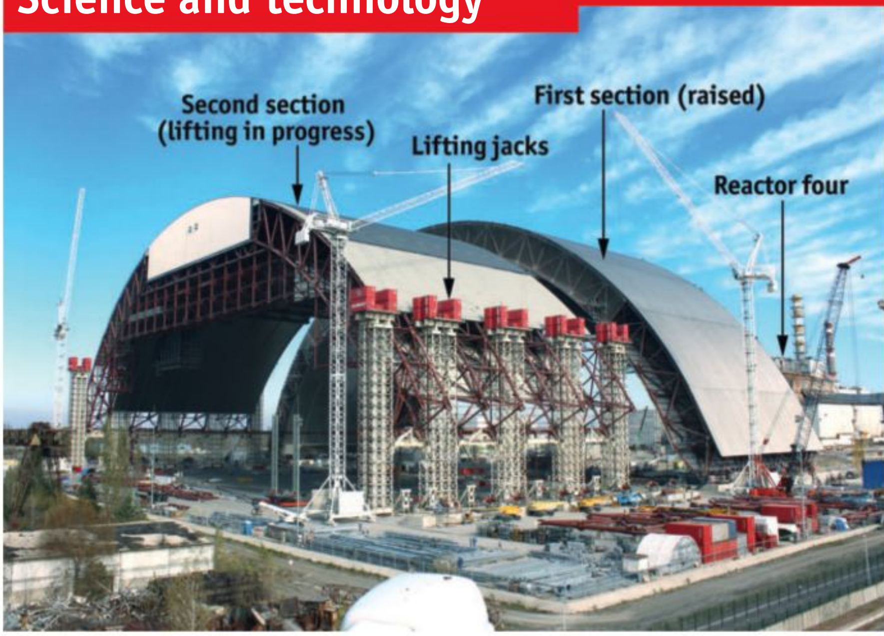

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Nuclear safety

The ultimate security blanket

CHERNOBYL

Almost three decades after the catastrophe that wrecked it, a proper tomb for reactor number four at the Chernobyl nuclear power plant is nearing completion

"YOU can take photos. But stay on the road. Don't step onto the grass." It is 28 years since the world's worst nuclear accident, at the Chernobyl nuclear power plant in northern Ukraine, but visitors are still told to be careful. Though much of the plant (at which, even now, 3,000 people work) has been decontaminated, and the roads cleaned up, the surrounding forest has hotspots where fragments of debris and nuclear fuel, ejected by the explosion that destroyed reactor number four on April 26th 1986, emit dangerous radiation.

At the moment, the reactor's remains are sealed in by a concrete and steel structure known officially as the Shelter Object and colloquially as the sarcophagus. This has done its job for nearly three decades, but there are doubts it can manage a fourth. Wind, rain, rust and time have taken their toll, and the radiation level within it makes maintenance near-impossible. Many fear it may collapse.

That is why visitors to Chernobyl these days will see a huge and growing building looming in front of reactor four's remains. This is the New Safe Confinement (NSC; it has yet to attract a nickname). It is in essence, as the picture shows, a giant double-skinned stainless-steel Nissen hut, which will have flat walls at each end. It weighs 30,000 tonnes; is taller, at 110 metres, than the Statue of Liberty; and is 165 metres long and 260 metres broad. It is being built by Novarka, a French consortium, and its cost, €1.5 billion, is met by donations from dozens of countries, administered by the European Bank for Reconstruction and Development. It was scheduled for completion in 2005, but political foot-dragging and wrangling over who would pay have delayed its construction by more than a decade. When it is finished, though—probably in 2017—it will protect the sarcophagus from the ravages of the weather and ensure that, even if that older container does fall down, no radiation will escape. With luck, it will be able to do this for a century.

Baba Yaga's hut

Even now, so long after the explosion, too much radioactivity streams through the sarcophagus from the reactor's ruined core to allow the NSC to be built *in situ*. Instead, it is being constructed a few hundred metres away and will be slid into place on rails—making it, Novarka reckons, the biggest movable structure ever built.

That distance, however, is still not enough for complete safety. The construction site is a compromise, for it is on a slope. The railway must be flat, so every metre it is extended means removing and disposing of more tonnes of radioactive soil. Rather than do that, Novarka has built a special concrete radiation shield in front of the sarcophagus, to provide additional protection for its workers. This, though, is a compromise too, for the shield is necessarily far shorter than the NSC's arch will be at full height. To overcome that, the NSC is composed of two sections—each, in turn, made of linked panels, so that they can remain flat, under the shield's protection, until raised by special jacks.

To complicate matter further, reactor four shares a building with reactor three, which did not blow up and is not covered by the sarcophagus. The NSC will cover only the reactor-four part of this building. The wall at that end of it thus has a hole through which the building fits, and which will have to be sealed to the building by a membrane when everything is in place.

Even when that has happened, however, only half of the contract will have been fulfilled. The other half—keeping the thing standing for the century specified in its blueprints—will be a challenge. Many large steel structures, such as the Forth Bridge, in Britain, have survived for more than a century. But, as Nicolas Caille, the project's director at Novarka, points out, these rely on regular repainting to protect them from the elements.

The ruined reactor's radioactivity means it will be impossible to do that for the NSC. Instead, the plan (besides using stainless rather than normal steel for part of its construction) is to pump warm, dry air between its inner and outer skins. As long as this ventilation system can keep the air's relative humidity below 40%, the non-stainless bolts and beams that hold the structure together should not rust. For the plan to work, though, the dehumidifiers will have to be kept supplied with power for the whole period.

Then there is the question of what to do with the radioactive junk inside. The ultimate goal is to disassemble the sarcophagus and then cut up and dispose of the remains of the reactor. The NSC is therefore being built with several internal, remotely operable cranes, and the plan is, one day, to ▸▸

use these and robots to do the job.

But that will not be easy. The inside of reactor four is a mess of twisted metal, naked nuclear fuel and lumps of "corium", a lava-like substance formed when reactor fuel melted and mixed with the concrete floor of the reactor building. This building is so radioactive that anyone walking around in it would accumulate a lethal dose in minutes. Even robots working there will need to be hardened against the radiation, and also dexterous enough to navigate through what is, essentially, a bomb site. Those involved concede that the technology needed to do this does not yet exist. But once the NSC is in place, there will be plenty of time to invent it.

There may, though, be little incentive to do so. Once the NSC is finished, and there is no longer a risk of radiation escaping, the problem of deconstructing the sagging sarcophagus and clearing out the reactor building will become less urgent. There are many other calls on the Ukrainian government's money, and foreign donors may decide they have higher priorities. Doing nothing might even be sensible—the 100 years the NSC is designed to last will give time for radiation levels inside the reactor building to fall, making any eventual clean-up simpler. When asked about this, Igor Gromotkin, the director of the Chernobyl nuclear power plant, simply smiled and replied: "It's a good point." ■

How Tibet was won

The barley mow

BEIJING

The settlement of Tibet depended on an exotic crop from the West

THAT agriculture permitted the human population to expand its size is obvious. That it permitted the population to expand its range as well is a more subtle point. But a paper just published in *Science*, by Chen Fahu and Dong Guanghui of Lanzhou University, in China, and their colleagues, shows a fascinating example of just that. A new crop not only allowed people to colonise the highest reaches of Tibet, but let them do so at a time when the weather was actually getting colder.

Archaeology suggests that humans have been visiting the Tibetan plateau for at least 20,000 years. For most of this time, though, these visits were seasonal—probably in search of game such as goats, sheep, asses and yak. The lower slopes of the plateau started to be settled by farmers about 5,500 years ago. But these farmers, Dr Chen and Dr Dong discovered after reviewing artefacts, plant remains, animal bones and teeth from 53 sites in the north-east of the plateau, failed to establish themselves above 3,000 metres until about 3,600 years ago. Only then did farming spread to cover places with an altitude of up to 4,700 metres.

This is odd, because 4,000 years ago the climate in the area became distinctly colder. If anything, the maximum altitude of farms would have been expected to fall, not rise. So what accounts for the spread?

The clue is in the crops. Sites below the crucial contour line are dominated by millet. Those above it are dominated by barley. Though barley has a longer growing season than millet, it is more tolerant of the cold. Barley was part of a farming revolution that happened in the Middle East as millet and rice were spreading in China. It arrived in Tibet at just the right time. Tibet's farmers were able to expand confidently upwards instead of being forced downhill, and the roof of the world, a habitat about as different from the African savannah in which *Homo sapiens* evolved as it is possible to imagine, was nevertheless absorbed successfully into the human empire.

Antibodies v bacteria

Making resistance futile

GAITHERSBURG

A new way to fight bacterial infections

"OUR job", says Jan Kemper, "is to make cells happy." Ms Kemper works at MedImmune, a subsidiary of AstraZeneca based in Gaithersburg, Maryland. Her laboratory contains 40 bioreactors—fluid-filled tanks of about three litres' capacity. Paddles within them whirl around a mixture of nutrient broth and specially engineered hamster cells that are busy making human antibodies.

It is, indeed, cell heaven in one of these reactors. It is also part of a new front in the ancient war between man and microbe, for the antibodies Ms Kemper's cells produce are designed to attack bacteria, and thus back up conventional antibiotics, some of which are failing in the face of rising bacterial resistance.

In America alone, at least 2m illnesses a year—and 23,000 deaths—are caused by antibiotic-resistant bacteria. Besides the human suffering this inflicts, it adds $20 billion to the annual cost of health care. The toll is such that, in September, Barack Obama directed federal agencies to take action against antibiotic-resistant bacteria. A task-force, ordered to report in February, has been appointed. And the Department of Health and Human Services is putting up a $20m prize for a rapid, diagnostic test for such bacteria. But a diagnosis is of little value without a treatment. Which is where antibodies come in.

Horse sense

Antibodies are proteins that have special sites on them which can vary in shape in myriad ways. Each variation is tailored to stick to one or a handful of specific other molecules, known as antigens, and neutralise them. If an antigen is part of a bacterium or virus, that gets neutralised too.

Using antibodies to treat infections is not a new idea. The first Nobel prize in medicine, awarded in 1901, went to Emil von Behring for discovering how to employ antitoxins, as he called them, to treat diphtheria. Von Behring found he could transfer them from infected horses to sick people by injecting those people with horse-blood serum. In the wake of this discovery, serum therapy became, until the invention of antibiotics, the main way of treating not only diphtheria but also tetanus, scarlet fever and meningitis. It faded into the background after the invention of antibiotics, but is still employed for neutralising snake venom and—albeit experimentally—for treating Ebola fever. How-

ever, now that biotechnology allows particular antibodies to be created in laboratories like Ms Kemper's, the technique is poised to return to wider use, albeit in a slightly different guise.

Merck, a large American drug company, is testing a combination of two antibodies against toxins made by *Clostridium difficile*, a bacterium that plagues hospitals and which can be hard to treat with conventional antibiotics. The past few years have seen a particularly virulent strain of this bug emerge, and death rates have increased. Early trials of Merck's treatment suggest that, when used alongside conventional antibiotics, antibody therapy reduces the recurrence of infection.

MedImmune's antibodies, known for the moment as MEDI3902 and MEDI4893, are aimed respectively at *Pseudomonas aeruginosa* and *Staphylococcus aureus* and bind, in the former case, to bugs themselves and in the latter to human cells, shielding them from bacterial toxins. *Pseudomonas* and *Staphylococcus* are bacteria that particularly plague intensive-care units, sometimes causing stays in hospital to be five to eight times longer than they need be. For that reason, and the lack of alternative therapies, America's Food and Drug Administration has recently agreed to expedite the review process for these two potential treatments.

Unlike most antibodies, MEDI3902 is bi-specific—meaning it has been engineered to bind to two different targets. One of these is on *Pseudomonas*'s tip, the site that injects toxins into an infected individual's body cells. When the tip is plastered with antibodies, this cannot happen. The other target is on the bacterium's surface. Here, the antibody does two things. It stops bacteria it is attached to interacting with, and thus harming, body cells. It also brings the bugs in question to the notice of the body's defences, such as white blood cells called macrophages, which then eat them.

MEDI4893 also has more than one function. It stops the toxin produced by *Staphylococcus* binding to body cells. It also prevents the bug rupturing those cells' membranes and killing them. And Merck and MedImmune are not the only companies involved in this area. Sanofi, a French firm, is also working on an antibody that kills *Staphylococcus* by attracting it to the attention of macrophages.

All these new treatments will, if they work, be useful in hospitals—particularly to treat infections that are resistant to antibiotics and thus hard to get rid of. But they might also be used prophylactically, as conventional antibiotics already sometimes are, before someone undergoes surgery. They may, indeed, prove to be a way of sparing the routine use of antibiotics, thus reducing the selective pressure on bacteria to evolve resistance to those drugs—for the reason resistance is such a problem in hospitals is that there are an awful lot of antibiotics sloshing around in them.

Evolution being what it is, bacteria will no doubt find ways around antibodies, as they have with antibiotics. But the wider the range of weapons available for deployment in the conflict, the harder life will be for them. As Steve Projan, who oversees MedImmune's antibody project, eloquently puts it, "I've been working on staph for 34 years. I'm ready to beat the bastard." ■

The fate of Philae

Where the shadows lie

Europe's comet-lander worked, but not as well as had been hoped

AS MIXED successes go, it was a spectacular one. On November 12th the European Space Agency (ESA) announced, with a mixture of relief and triumph, that *Philae*, a robotic probe, had landed on its target, a 4km-wide comet called 67P/Churyumov-Gerasimenko. But, as the minutes and hours passed, it became clear that things had not gone entirely to plan. *Philae* was indeed down, but it was down in the wrong place, and suffering from a serious shortage of sunshine to boot.

Landing on a comet is tricky, even by the standards of rocket science. Because comet 67P is so small, its gravity is feeble. Anything lifting off from its surface at a speed greater than about one metre a second will zoom away into space. It was vital, then, that *Philae* make a gentle landing, and have some means of staying put once it was down. That did not happen, thanks to what could only be called hard luck.

First, a small rocket intended to fire on touchdown to push the craft downwards in order to stop it rebounding, failed before *Philae* separated from its mother ship, *Rosetta*. ESA's mission controllers decided to go ahead anyway, relying on a pair of harpoons designed to fire into the comet's surface and anchor *Philae* in place. In the event, those did not work either.

Moreover, the comet appears to be made of stiffer stuff than expected. When *Philae* hit the surface, its flexible legs absorbed some of the impact energy—but not enough to prevent a bounce. Even a small jolt was enough to send it rebounding hundreds of metres back into space. As it was bouncing, the comet rotated beneath it. When it did come to rest, two hours later (and after a second, smaller bounce), it was far from its planned landing site.

Worse, it ended up lying at an awkward angle, in the shadow of a cliff (see photograph). Its solar panels were illuminated for just an hour and a half out of every 12-hour cometary day. With insufficient sunlight to recharge the craft's batteries, mission controllers had to husband carefully what juice they had.

For two days, eight of its ten instruments collected data. On November 14th, with the batteries running low, ESA decided to try deploying *Philae*'s soil penetrator, but it seems not to have accomplished much. Then, with the collected data safely transmitted to Earth and the batteries deep in the red, the controllers moved the craft slightly to try to improve the amount of sunlight it received. On November 15th, contact was lost.

But not, perhaps, for ever. *Rosetta* continues to orbit the comet, gathering data of its own. And *Philae* seems undamaged by its ordeal. ESA hopes that, as 67P falls towards the sun and *Philae*'s solar panels are consequently able to harvest more and more photons, the probe might one day bring itself back to life. ■

Correction: Last week we said that, before *Philae*'s landing on comet 67P/Churyumov-Gerasimenko, no craft had made a soft landing on an astronomical body other than a planet or a moon. That is wrong. Two craft, *NEAR Shoemaker*, an American mission, and *Hayabusa*, a Japanese one, have landed on asteroids.

The black cliffs of 67P/Churyumov-Gerasimenko

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Russia

Band of brothers

An academic investigation into the networks that control Russia

Putin's Kleptocracy: Who Owns Russia? By Karen Dawisha. *Simon and Schuster; 445 pages; $30*

"PUTIN, thief! Putin, thief!" chanted the protesters who marched through Moscow as Vladimir Putin sought his third term as president. Since then the rallies have ended. Russia's swift annexation of Crimea and its subsequent proxy-war in the south-east of Ukraine have turned Mr Putin into a national hero in the eyes of many Russians, including some former protesters. But they have also led to Western sanctions against Mr Putin's cronies, and focused attention once more on the issue of theft and corruption, which is the subject of a new book by Karen Dawisha, a political scientist at Miami University in Oxford, Ohio.

"Putin's Kleptocracy" is a who's who of the people on the sanctions lists drawn up by America and the EU. It is also a guide to the crony capitalism that grew out of the nexus of Mr Putin's plutocratic interests, his shady past and authoritarian rule.

When Mr Putin became president he was seen as a pro-Western, economic liberal. He pledged to clamp down on the oligarchs who wielded power in the 1990s, and to restore the role of the state as chief arbiter. Instead, Ms Dawisha writes, he transformed "an oligarchy independent of and more powerful than the state into a corporatist structure in which oligarchs served at the pleasure of state officials, who themselves gained and exercised economic control…both for the state and for themselves." The result is that 110 individuals control 35% of Russia's wealth, according to Ms Dawisha.

The buccaneering oligarchs who emerged in the 1990s were bright, self-made men who ruthlessly exploited every opportunity offered by the transition economy. Mr Putin's cohort is different. Most of them are secretive, unremarkable, grey men, with backgrounds in the security services. They prospered, not by building new businesses, but by suffocating existing ones and picking up the pieces or sucking money out of the state.

In the mid-1990s Yegor Gaidar, the architect of Russian market reforms, feared that the repressive Soviet bureaucracy could morph into a mafia system. "A union between mafia and [bureaucratic] corruption can create a monster which has no equivalent in Russian history—an all-powerful mafia state, a real octopus," he wrote in 1994. A decade later Gaidar's concern began to turn into reality. Ms Dawisha's book describes the fusion between the secret police, the mafia and the oligarchs with tentacles that stretch into almost every aspect of life in Russia and beyond.

Ms Dawisha traces their influence to the last days of the Soviet empire, when the KGB was put in charge of the Communist party's foreign bank accounts and set up joint ventures with Western firms. When the party collapsed the KGB knew where the money was. In the late 1980s Mr Putin was a junior officer. By 1990 he was formally in charge of external trade relationships in the office of the mayor of St Petersburg. In practice, this meant he was part of all trade deals with foreigners.

When Mr Putin moved to Moscow, serving in the Kremlin's administration and then as the head of the FSB, the KGB's successor, before becoming prime minister and then president, his friends followed. Mr Putin relied on former associates to help run the country. Some have become billionaires controlling the distribution of the oil rents. Mr Putin also exploited the traditional links between the KGB and organised crime.

Ms Dawisha points her finger at many. Cambridge University Press was so frightened of her accusations that it decided earlier this year not to publish the book for fear of being sued. (It was subsequently bought by Simon and Schuster, but is being brought out only in America.) British libel laws have no doubt contributed to a sense of intimidation. Russian oligarchs have been able to take advantage of them, but may find that harder now that many appear on a sanctions list and are unable to travel to Europe and America. In 2009 *The Economist* settled a libel action, which Ms Dawisha refers to in her book. It was brought by Gennady Timchenko, a former owner of Gunvor, a commodities-trading firm. He is on the American sanctions list.

Ms Dawisha's work is largely based on open sources, chiefly investigations by Russian and foreign journalists and published in Russian newspapers, journals and books. The problem with this approach is that without being able to verify these sources, Ms Dawisha makes herself vulnerable to the same ills that have beset the Russian media: supposition, conspiracy and statements based on assumptions and circumstantial evidence rather than documentation. It is impossible to judge how much of this can be proved. ▸▸

The overall thesis of Ms Dawisha's book is that Mr Putin's advance to power was not accidental but part of a premeditated plan. Furthermore, the system that has emerged in Russia was created by a group of men who followed Mr Putin. "The group did not get lost on the path to democracy," she writes. "They never took that path." But hindsight can be misleading. Ms Dawisha imposes her view of today's Russia on to the time when Mr Putin came to power. In fact, Russia's descent into the corporatist, nationalist state that it has now become was by no means predetermined.

In a pluralistic state, the scandalous, ugly stories about Mr Putin and his associates would bring down the government. In Russia they have had little effect. Part of the reason lies in the Kremlin's control of television, the main source of information for most Russians. The vast increase in incomes, particularly in large cities, has also made people more tolerant of corruption. It was not just Mr Putin's cronies who benefited from the rising oil prices. So did those who voted for him. Russia's aggression in Ukraine and the propaganda that accompanied it struck a chord with people keen for an imperial resurgence. But as the economy slows down and real incomes start to fall, the focus may shift back to the issue that sparked the protest in 2011. If so, the stories that Ms Dawisha tells may start to resonate more loudly. ■

Quantum biology

Nature, the physicist

Life on the Edge: The Coming of Age of Quantum Biology. By Jim Al-Khalili and Johnjoe McFadden. *Bantam Press; 355 pages; £20*

LIFE science still hides a few mysteries. How do migratory birds sense direction? How are molecules in the air perceived as a smell? How, precisely, do tadpoles lose their tails? For years, scattered views from the fringes have attempted to explain such phenomena using quantum mechanics, a weird bit of physics that predicts oddities such as particles being in multiple places at once, eerily connected across vast distances or tunnelling through seemingly insuperable barriers.

Yet a growing body of experimental evidence suggests that quantum oddities may really be responsible for many of life's engineering successes. Quantum biology, the name given to the nascent field that draws these diverse data together, is moving in from the fringes and becoming established. "Life on the Edge" is the first popular science book to outline it.

Making sense of scents

Quantum mechanics is one of science's most successful theories, superseding Sir Isaac Newton's "classical" physics, the workaday version taught at school. The theory's weirder predictions—spooky connections, tunnelling and the like—are not part of people's everyday experience. They happen at a microscopic level and, it was thought, only under precisely controlled conditions. Experiments were done by the steadiest hands in the darkest labs at the lowest achievable temperatures.

But life is nothing like that. Plants and animals are warmed and lit by the sun, mostly, and tend to be squidgy, moving and watery. It had long been assumed that a living being is a poor laboratory in which to carry out quantum experiments. But in 2007 scientists who were trying to understand how plants gather the sun's energy so efficiently stumbled across something strange: that energy was sloshing around in what are called quantum coherences. In effect, the energy is in multiple places at the same time and "finds" the most efficient route from where it is collected to where it is put to use.

This first credible example inspired other scientists to follow similarly bold avenues of enquiry. To grasp these new threads in quantum biology is to grasp a quantity of quantum theory; the coherence is just one of the complex phenomena that Jim Al-Khalili and Johnjoe McFadden set out to teach the reader. They succeed by using delightfully revealing analogies and similes, some borrowed from their prior work, that make slippery concepts sit still for study.

The notion of "quantum entanglement" makes more sense when depicted as a pair of loaded dice. Molecules with left- and right-handed forms that vibrate in identical ways become left-handed Jimi Hendrix and right-handed Eric Clapton playing the same tune.

Once the quantum genie is out of the bottle, it is tempting to use it to explain all manner of phenomena. The book suggests that a molecule in birds' eyes might be the site of a quantum effect that permits them to "see" a magnetic field and thereby to navigate. Subatomic particles tunnelling across gaps in the nose when aroma molecules are around may be the first step in how animals sense scent. This same tunnelling is presumed to be at work in the action of enzymes, those proteins that shuffle chemical reactions along in living things (among them, the breakdown of tadpoles' tails as they become frogs).

Some of the ideas presented are quite speculative. Quantum weirdness, after all, has long been used to excuse all sorts of questionable science. In 1989 Roger Penrose, an Oxford mathematician, proposed a quantum mechanism for consciousness that was met with deep scepticism. Yet Messrs Al-Khalili and McFadden go on to revise Mr Penrose's theory in light of more recent experiments. Where doubt remains, work continues. The authors themselves are leading the search for a quantum mechanism in genetic mutations, which might be giving evolution itself a helping hand.

That quantum effects are an incontrovertible part of some of life's machinery is reason enough to go looking for more examples. The ideas in "Life on the Edge" may be dead ends, or they may be just the beginning. Either way, the quantum telescope is set on far horizons. ■

German history

Reformed character

Reluctant Meister: How Germany's Past is Shaping its European Future. By Stephen Green. *Haus Publishing; 338 pages; $29.95 and £25*

JUDGING by the books published about Germany in recent decades, you might conclude that the only subject worth writing about was the 12 years from 1933 to 1945: from when Hitler took power to the end of the second world war. And given the enormity of what happened during that period, it is easy to see why writers return to it over and over again to try to understand the incomprehensible.

Stephen Green, a self-confessed lifelong Germanophile (as well as a former chairman of HSBC, a one-time trade minister in the British government and an ordained priest in the Church of England), offers some of his own explanations in this very personal take on the country. He starts a lot earlier than most, in 9AD, when a German tribal leader called Hermann defeated three Roman legions in the battle of

the Teutoburg Forest, and ends in the present, with a Germany that, thrust into a leading role in the EU, is reluctant to embrace it. The idea is to show that the roots of that dismal period go a long way back and its effects still resonate 70 years on.

Among those roots, he argues, is a sense of victimhood that eventually sees the victim turn aggressor. In Germany this made an early appearance with Hermann, on whom the Romans got their revenge a few years after his famous victory. More recently the country saw itself as the main victim of the appalling Thirty Years War of 1618-48; of French aggression, from Louis XIV to Napoleon; and, most devastatingly, of the Treaty of Versailles, in which the victors of the first world war imposed a crushing settlement on the vanquished.

Lord Green also traces the prolonged and difficult search for a German identity through the country's religious, philosophical and artistic heritage. A key concept in German moral thought is duty, extolled by thinkers from Martin Luther to Immanuel Kant. But applied to the wrong cause, devotion to duty can lead to disaster.

Such explanations may throw some light on the origins of the Holocaust, but they leave huge lacunae. How could it have happened with so little resistance? There was some opposition, which generally proved fatal—the July 20th plot to assassinate Hitler, the White Rose dissident group, the Lutheran pastor Dietrich Bonhoeffer and his supporters—but they were drops in an ocean of acquiescence. It seemed as though a nation's collective conscience had been switched off.

Come the end of the war, it became plain that the whole thing had been a chimera. The Germans found themselves presiding over a devastated country and a mountain of guilt. For them, it was truly a *Stunde Null* (zero hour).

The miracle, as Lord Green rightly points out, is that from this state of total collapse, Germany (with the help of generous Marshall aid from America and a sensible currency reform) rose again to become a country with model democratic institutions and a highly successful economy. It is now living at peace with its neighbours for the first time in many centuries. Any remaining shadows of the Third Reich were swept away when the Berlin Wall came down 25 years ago and East and West Germany were united. Integrating them was hard but ultimately successful.

There were fears at the time that a united Germany might be tempted to throw its weight around again, yet the opposite has happened: critics now accuse it of being too reluctant to play the leading role in the EU for which its size and economic weight clearly mark it out. But they cannot have it both ways. Instead, they should marvel at this reformed character in their midst, be thankful—and learn from it. ■

Children's literature

Moomins' magic maker

Tove Jansson: Work and Love. By Tuula Karjalainen. Translated by David McDuff. *Penguin Global; 291 pages; $34. Particular Books; £20*

TOVE JANSSON, who was born in 1914, wrote some wonderful adult fiction, but she is best known internationally for her Moominland stories and her illustrations for children. Jansson was often asked whom she wrote for. For herself, she would reply. But once she added: "If my stories are addressed to any particular kind of reader, then it's probably a Miffle." The Miffles were the lonely, timid ones, and their fear was important, she said. "Anxious and self-confident children alike are unconsciously drawn to it, and to destruction." At first glance, this sits oddly with the easy-going charm of Moominland where, in spite of disasters and the Groke and the sinister Hattifatteners, civility and good humour always prevail.

Tuula Karjalainen's "Tove Jansson: Work and Love", translated from the Finnish, radically shifts that perspective, at least for English-speakers who are unfamiliar with the origins of Jansson's stories. Jansson grew up in the shadow of the Russian revolution, which spilled over into bitter civil war in Finland in 1918. Her father fought on the anti-communist side, and one of her best adult stories describes her child-self watching him carousing with his old war comrades and, at a certain moment, ritualistically bayoneting a wicker chair. Many thousands died in that war, and although the anticommunists won, the country remained divided—increasingly so with the rise of Nazi Germany in the 1930s. Jansson remembered feeling so enraged by her father's views that "she had to go to the bathroom and vomit". Three more wars followed, between 1939 and 1945: first the Finns fought against a Russian invasion; then they joined with Nazi Germany to fight the Russians; and finally they fought Nazi Germany itself.

During the 1930s Jansson studied at the Academy of Fine Arts in Helsinki and became a passionate anti-Nazi pacifist. It was in 1934, while staying with an aunt in Germany, that she painted one of her first versions of a Moomin, a strangely menacing scene featuring a long-snouted creature, black and red-eyed. At the time she was also designing covers for a satirical magazine, *Garm*, in which she mercilessly caricatured both Hitler and Stalin. Again, small Moomin-like figures make an appearance, sometimes black, and sometimes as they appeared later, pale and plump.

The war itself conjured the stories. "It was the winter of war, in 1939," she wrote. "It felt completely pointless to try to create pictures...I suddenly felt an urge to write down something that was to begin with 'Once upon a time'." Much later, left-wing Finnish critics would accuse Jansson of bourgeois escapism. But, in a sense, the very act of imagining was political, a gesture of defiance. The Moomins stood for something in a brutal world, though she would never quite have said so.

Jansson always saw herself first as a serious painter. She exhibited frequently in Finland, and won awards and commissions for large public murals. Her reputation there as a writer lagged far behind the rest of the world. Ms Karjalainen is a historian of Finnish art, and although she covers Jansson's writing, it is the paintings that really interest her. This is a pity. Jansson was a more interesting writer than a painter, and her life sheds much light on her particular quality as a storyteller. Her use of Moomins to defy the war is characteristic. Everywhere in her fiction there is the same sense of deflection and indirection. She hated ideologies, messages, answers. And it somehow fits that she fell in love with both men and women. Ambivalence was a kind of comfort to her. As one of her characters says, "Everything is very uncertain, and that is what makes me calm." ■

Political animals

English family life

Busy people

Common People: The History of an English Family. By Alison Light. *Fig Tree; 322 pages; £20*

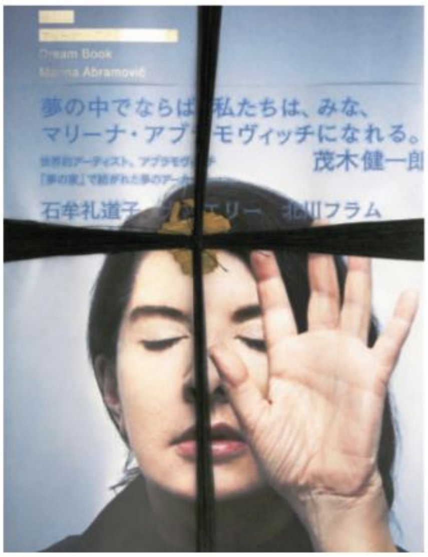
ONE of the inspirations for Alison Light's book, "Mrs Woolf and the Servants", which came out in 2007, was her grandmother and her work as a domestic servant in the early years of the 20th century. Here, in "Common People", are the rest of her family—a miscellaneous collection, stretching as far back as the 18th century, and including needle-makers, washerwomen, bricklayers, shirt-sewers, railwaymen, sailors, postmen, domestic servants and, in every generation, paupers. The workhouse casts a long shadow.

"Common People" is an extraordinary piece of research. "Every life deserves telling," says Ms Light, an English literature professor at Newcastle University. "None is without drama and change." But few of her family left any trace beyond census returns and registrations of baptism, marriage and death. Hunting through the records, she longs for something more: "I wanted some distinguishing features," she confesses, "some sign of an inner life." But the point of her book lies not so much in its individual characters as in the patterns they make. They were not the solid masses, all clogs and snap tins. They were constantly on the move, tramping the roads, in and out of employment, sliding around the social scale. A telephone clerk becomes a railway porter; a bricklayer becomes a navy cook's mate; a schoolmaster's daughter sews shirts; a master-baker becomes a grocer and dies in the workhouse. These people are blown about by private and political circumstance—figures "in the carpet woven by events, by chance and accident, and by the play of forces larger than us."

Ms Light's research into the historical context of her family is wide and various. Their streets and houses, their occupations, the impacts on them of laissez-faire economics, of population growth, of punitive Poor Laws, and so on—all these are richly chronicled. So why, readers might ask, bother with family? Why not write a social history of the working classes? One answer, perhaps, is that it is precisely there, at the level of the family, that a generic concept, such as "the play of forces", is at its least generic.

Ms Light often reflects on questions of distance and perspective. The family historian, she says, "estranges her antecedents by locating them 'in history'". Yet she also "humanises those who might otherwise be mere faces in a crowd." By the same token, she familiarises history itself, brings it home—where, crucially, it touches a nerve.

"I am filled with sadness when I trace the contours of these lives," Ms Light writes. And anger too: "Anger is more bracing." Ancestors "lived in accommodation we could hardly stomach, on streets whose stench would make us gag…" One great-grandmother was born in a workhouse, entered domestic service as a child, married, had children and died in a mental asylum. But Ms Light is wary of misery tales. "What seems like fate", she writes, "is often only what survives as documents." What about the spaces between? There are slumdwellers who "look back with affection on their childhoods", hopscotching and leapfrogging "in some of the worst places imaginable". But that, of course, does not make slums alright. Family history, thanks to the internet, has become a hugely popular pastime. "Common People", with its fine sense of nuance, raises the game for everyone. ■



Collecting modernism

Reconsidering

A clever auction in aid of PEN America

INK is indelible; once printed, books cannot be rewritten. Or can they? Eighteen months ago Rick Gekoski, a London-based antiquarian bookdealer, persuaded 50 authors to scribble second thoughts in first editions of their most famous works. J.K. Rowling wrote in "Harry Potter and the Philosopher's Stone", Kazuo Ishiguro in "The Remains of the Day", his obsessive tale of an English butler in thrall to duty. Lionel Shriver annotated a copy of her 2003 bestseller, "We Need to Talk about Kevin", and the book was snapped up by the Dobkin Family Collection of Feminism as a totem of its kind. The average price at the auction was $10,000, though for the "Harry Potter" the hammer went down at $235,000. The sale raised $690,000 for PEN, an association that promotes freedom of expression around the world.

Now Mr Gekoski's wife, Belinda Kitchin, has revisited the idea in aid of PEN America. Seventy-five artists and authors have offered additions to their books, which will be auctioned at Christie's in New York on December 2nd.

For artists such as Kiki Smith, Richard Serra and Ed Ruscha, who have long been influenced by books and paper, the auction has been an opportunity to roll up their creative sleeves. Ink, charcoal, graphite, glitter, red paint—nothing is out of bounds. Every page carries signs of their physical efforts.

Marina Abramovic, a performance artist, has done something rather different. "Dream House" was a farmhouse in Japan that she converted into a retreat for people to sleep in and record dreams. The "Dream Book", which came out in 2012, gathers together 100 of these dreams. For the PEN auction Ms Abramovic has annotated a copy of the book (pictured), then tied it up with hair-like black thread, to which a broken brass key is attached. Like so many dreams, the book is unopenable, destined for ever to be a mystery.

If the artists have looked forward, the writers, for the most part, have used the auction to look back at their younger selves, not knowing how like themselves they had already become. Malcolm Gladwell is the Imelda Marcos of trainers; he buys two dozen pairs a year. Lydia Davis, a writer of sly short stories, is herself sly: "I never realised until the latest collection how often fish reappeared in my stories." Garrison Keilor is the stolid Midwesterner he always was: "I had stopped smoking 2/14/1982 which briefly made me feel my writing was kaput. 'Lake Wobegon Days' kept me going." Gillian Flynn seems more than a little crazy: "Thanks for reading this! Sorry that I have the crabbed handwriting of a serial killer!"

Mid-career, Michael Chabon looks back "in acute embarrassment and mortification". Much older and retired from writing, Philip Roth is mightily pleased with what he has achieved. "Portnoy's Complaint" was described to Richard Nixon by an aide as "the most obscene, pornographic book of all time". When Mr Roth was presented with the Presidential Medal of Freedom 40 years later, Barack Obama asked only: "How many young people have learned to think by reading of Portnoy and his complaints?" "Millions," grinned Mr Roth. Indelible ink, indeed. ■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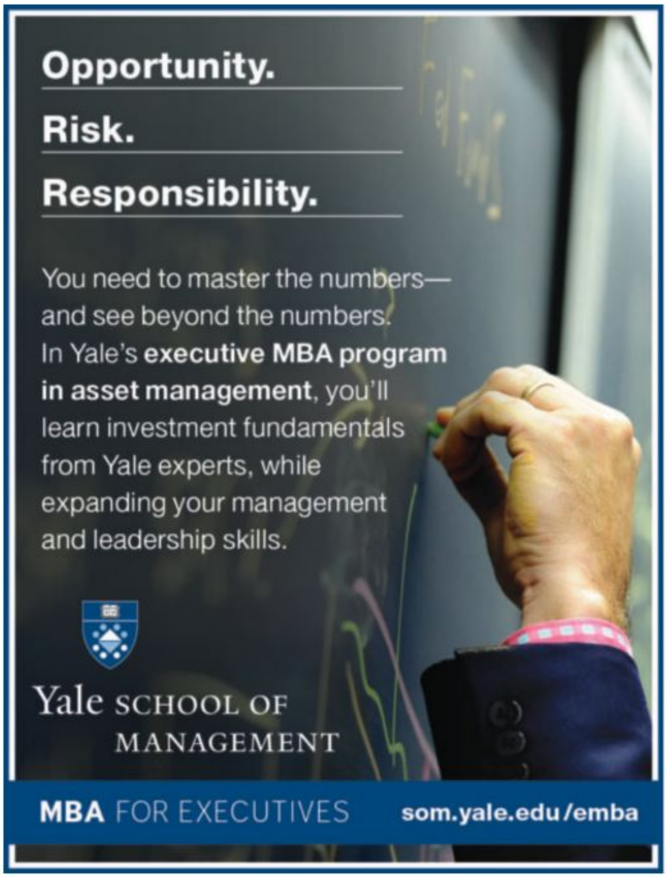
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Tenders

Government of Karnataka, India

Water Resources Department

Office of the Managing Director, **Cauvery Neeravari Nigam Limited,**
Surface Water Data Centre, 3rd and 4th Floor, Anandarao Circle, Bangalore - 560009, Karnataka, India

CORRIGENDUM : GLOBAL EXPRESSION OF INTEREST

With reference to our Global Expression of Interest published in this publication on 15th November, 2014 the closing date for submission of proposal is extended up to 6th December, 2014 instead of 30th of November 2014. Any clarifications can be sought at cnnbantech@yahoo.co.in All other terms and conditions remain un-altered.

TRADE MARK EAST AFRICA

Growing Prosperity Through Trade

TRADEMARK EAST AFRICA (TMEA)
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REQUEST FOR PROPOSALS (RFP)

TITLE: SHORT TERM EXPERT TO DEVELOP TRADE AND LOGISTICS PROGRAMME
NUMBER: PRQ20140517

TradeMark East Africa (TMEA) is an organisation funded by a range of development agencies to promote regional trade and economic integration in East Africa. TMEA has its main offices in Nairobi with branches in Arusha, Bujumbura, Dar es Salaam, Kampala, Kigali and Juba. TMEA is inviting bids from prospective individual consultants to develop and for a limited period direct the implementation of a TMEA programme targeting efficient and accountable trade logistics systems and services for East Africa.

Terms of reference for this consultancy and the Request for Proposals (RFP) document can be obtained at www.trademarkea.com. All queries quoting the above Tender Title and Number should be emailed to procurement@trademarkea.com. The closing date for submission is **22nd December 2014**.

Only applications from **individual consultants** shall be accepted.

Interested and qualified individual consultants must register and apply online ONLY on the TMEA procurement portal at the website: http://procurement.trademarkea.com and all attachments must be **10MB** or less.

TMEA cannot answer any query relating to this tender three days or less prior to the submission deadline.

classified@quantum-productions.co.uk

REQUEST FOR EXPRESSION OF INTEREST

TITLE: LONG TERM TRADE POLICY EXPERT FOR MINISTRY OF EAST AFRICAN AFFAIRS, COMMERCE AND TOURISM; AND LONG TERM TRADE FACILITATION AND NON-TARIFF BARRIERS EXPERT MINISTRY OF FOREIGN AFFAIRS & INTERNATIONAL TRADE

NUMBER: PRQ20140812
The Ministry of East African Affairs, Commerce and Tourism Kenya and Ministry of Foreign Affairs & International with support from TradeMark East Africa (TMEA) seeks to engage an individual consultants for the following assignments

1. Long Term Trade Policy Expert for the Ministry of East African Affairs, Commerce and Tourism
2. Trade Facilitation and Non-Tariff Barriers Expert for the Ministry of Foreign Affairs & International Trade Long Term

The detailed Terms of Reference for this consultancy and the application form can be obtained at TradeMark East Africa's website http://www.trademarkea.com. Interested and qualified **individual consultants** must register and apply online ONLY on the TradeMark East Africa procurement portal at the website: http://procurement.trademarkea.com. Any queries must be directed to procurement@trademarkea.com .

The closing date for applications is **11 December 2014**. Only successful applicants will be contacted.

TRADE MARK EAST AFRICA

Growing Prosperity Through Trade

classified@quantum-productions.co.uk

Government of Karnataka, India

Water Resources Department

Office of the Managing Director,
Krishna Bhagya Jala Nigam Limited
3rd Floor, PWD Annexe, K.R.Circle, Bangalore - 560 001, Karnataka, India

GLOBAL EXPRESSION OF INTEREST

Government of Karnataka, India, Water Resources Department wishes to invite Global Expression of Interest to participate in the following Consultancy service:

WRD KBJNL 01: For providing Innovative Engineering Solutions to minimise the effects of submergence in backwaters due to raising of height of Almatti Dam from current RL of 519.600 level to RL 524.256 M & preparation of techno-economic feasibility report with DPR.

For details & Terms of reference, please visit website: **www.waterresources.kar.nic.in / www.kbjnl.com**

Any clarifications can be sought at **md@kbjnl.com**

The closing date for submission of proposal is 7th December 2014.

Appointments

EUROPOL

The European Police Office is currently seeking candidates (f/m) for the post of

DEPUTY DIRECTOR (CAPABILITIES)

The vacancy announcement, the application form with the information on how to apply as well as the rules on the selection of the Deputy Director can be found on Europol's website:
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Closing date for applications:
11 December 2014 midnight (CET)

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Announcements

The Hainan Honz Pharmaceutical Co. Ltd.
through its adviser C&J International Co. Ltd. seeks a majority stake in a U.K. paediatric-oriented pharmaceutical company for mutually beneficent investment and development.
Enquiries to: **michael@cj-group.co.uk**

Economic and financial indicators

Economic data

% change on year ago

	Gross domestic product			Industrial production	Consumer prices		Unemployment	Current-account balance		Budget balance	Interest rates, %	Currency units, per $	
	latest	qtr*	2014†	latest	latest	2014†	rate, %	latest 12 months, $bn	% of GDP 2014†	% of GDP 2014†	10-year gov't bonds, latest	Nov 19th	year ago
United States	+2.3 Q3	+3.6	+2.2	+4.0 Oct	+1.7 Sep	+1.8	5.8 Oct	-389.2 Q2	-2.3	-2.8	2.35	-	-
China	+7.3 Q3	+7.8	+7.3	+7.7 Oct	+1.6 Oct	+2.1	4.1 Q2§	+206.0 Q3	+2.2	-3.0	3.45§§	6.12	6.09
Japan	-1.2 Q3	-1.6	+0.9	+0.8 Sep	+3.3 Sep	+2.8	3.6 Sep	-2.5 Sep	+0.2	-8.0	0.48	118	100
Britain	+3.0 Q3	+2.8	+3.0	+1.4 Sep	+1.3 Oct	+1.6	6.0 Aug††	-147.5 Q2	-4.4	-4.5	2.25	0.64	0.62
Canada	+2.6 Q2	+3.6	+2.3	+3.2 Aug	+2.0 Sep	+1.9	6.5 Oct	-50.4 Q2	-2.6	-2.4	2.03	1.13	1.04
Euro area	+0.8 Q3	+0.6	+0.8	+0.7 Sep	+0.4 Oct	+0.5	11.5 Sep	+327.3 Sep	+2.4	-2.6	0.85	0.80	0.74
Austria	+0.6 Q2	-0.6	+1.0	-3.7 Aug	+1.6 Oct	+1.6	5.1 Sep	+3.7 Q2	+2.5	-3.0	1.03	0.80	0.74
Belgium	+0.8 Q3	+0.8	+1.0	+0.5 Aug	+0.1 Oct	+0.7	8.5 Sep	+7.4 Jun	-0.9	-3.0	1.19	0.80	0.74
France	+0.4 Q3	+1.1	+0.4	-0.3 Sep	+0.5 Oct	+0.6	10.5 Sep	-40.0 Sep‡	-1.4	-4.4	1.20	0.80	0.74
Germany	+1.2 Q3	+0.3	+1.4	-0.2 Sep	+0.8 Oct	+1.0	6.7 Oct	+281.6 Sep	+7.0	+0.4	0.85	0.80	0.74
Greece	+1.7 Q3	+2.6	+0.4	-5.1 Sep	-1.7 Oct	-1.5	25.9 Aug	+2.3 Aug	+0.5	-3.5	8.32	0.80	0.74
Italy	-0.4 Q3	-0.4	-0.3	-2.9 Sep	+0.1 Oct	+0.3	12.6 Sep	+34.7 Sep	+1.3	-3.0	2.32	0.80	0.74
Netherlands	+1.1 Q3	+0.7	+0.6	-1.1 Sep	+1.1 Oct	+0.8	8.0 Sep	+86.3 Q1	+9.7	-2.7	0.94	0.80	0.74
Spain	+1.6 Q3	+2.3	+1.2	+3.7 Sep	-0.1 Oct	nil	24.0 Sep	+2.4 Aug	+0.3	-5.7	2.13	0.80	0.74
Czech Republic	+2.5 Q2	+1.2	+2.6	+8.3 Sep	+0.7 Oct	+0.5	7.1 Oct§	-0.5 Q2	+0.3	-1.6	0.83	22.1	20.2
Denmark	+0.3 Q2	+0.8	+0.9	-0.6 Sep	+0.5 Oct	+0.7	5.0 Sep	+23.6 Sep	+6.6	-1.3	1.08	5.94	5.51
Hungary	+3.2 Q3	+2.0	+3.0	+5.2 Sep	-0.4 Oct	nil	7.4 Sep§††	+5.9 Q2	+1.7	-2.9	3.65	243	220
Norway	-0.3 Q2	+3.7	+2.3	+7.5 Sep	+2.0 Oct	+2.0	3.7 Aug‡‡	+57.9 Q2	+11.2	+12.2	2.07	6.79	6.09
Poland	+3.3 Q3	na	+2.6	+4.2 Sep	-0.6 Oct	+0.2	11.3 Oct§	-6.9 Sep	-1.1	-3.5	2.67	3.36	3.09
Russia	+0.7 Q3	na	+0.4	+3.0 Oct	+8.3 Oct	+7.5	4.9 Sep§	+60.3 Q3	+2.6	+0.4	10.22	46.8	32.7
Sweden	+2.6 Q2	+2.9	+2.1	-4.3 Sep	-0.1 Oct	nil	7.5 Oct§	+36.6 Q2	+5.9	-2.2	1.11	7.39	6.62
Switzerland	+1.4 Q2	+0.8	+1.5	+3.1 Q2	nil Oct	+0.1	3.2 Oct	+78.4 Q2	+12.0	+0.3	0.47	0.96	0.91
Turkey	+2.1 Q2	na	+3.0	+4.1 Sep	+9.0 Oct	+8.9	10.1 Aug§	-46.7 Sep	-6.0	-2.6	8.47	2.24	2.01
Australia	+3.1 Q2	+2.0	+3.0	+4.6 Q2	+2.3 Q3	+2.6	6.2 Oct	-42.8 Q2	-2.8	-1.9	3.28	1.16	1.06
Hong Kong	+2.7 Q3	+6.8	+2.4	+2.2 Q2	+6.6 Sep	+4.0	3.3 Oct‡‡	+4.6 Q2	+0.9	+0.8	1.89	7.76	7.75
India	+5.7 Q2	+3.1	+6.0	+2.5 Sep	+5.5 Oct	+8.0	8.8 2013	-18.4 Q2	-2.0	-4.5	8.16	62.0	62.3
Indonesia	+5.0 Q3	na	+5.0	+10.9 Sep	+4.8 Oct	+6.3	5.9 Q3§	-24.0 Q3	-3.1	-2.3	na	12,148	11,598
Malaysia	+5.6 Q3	na	+6.0	+5.4 Sep	+2.6 Sep	+3.1	2.7 Aug§	+18.0 Q3	+5.7	-3.5	3.91	3.36	3.18
Pakistan	+5.4 2014**	na	+5.4	+5.3 Aug	+5.8 Oct	+8.0	6.2 2013	-3.1 Q3	-2.0	-5.5	11.75†††	102	108
Singapore	+2.4 Q3	+1.2	+3.4	-1.2 Sep	+0.6 Sep	+1.2	1.9 Q3	+56.5 Q2	+19.9	+0.5	2.31	1.31	1.24
South Korea	+3.2 Q3	+3.5	+3.5	+1.9 Sep	+1.2 Oct	+1.5	3.2 Oct§	+86.7 Sep	+5.5	+0.5	2.74	1,106	1,056
Taiwan	+3.8 Q3	+2.0	+3.7	+10.2 Sep	+1.1 Oct	+1.5	3.9 Sep	+64.0 Q2	+11.9	-1.3	1.64	30.8	29.5
Thailand	+0.6 Q3	+4.4	+1.4	-3.9 Sep	+1.5 Oct	+2.1	0.8 Sep§	+10.2 Q3	+2.6	-2.1	2.71	32.8	31.6
Argentina	nil Q2	+3.6	-1.4	-1.7 Sep	— ***	—	7.5 Q3§	-6.2 Q2	-0.9	-2.7	na	8.52	6.04
Brazil	-0.9 Q2	-2.4	+0.4	-2.1 Sep	+6.6 Oct	+6.3	4.7 Oct§	-83.6 Sep	-3.6	-3.9	12.78	2.58	2.26
Chile	+0.8 Q3	+1.5	+2.0	+0.2 Sep	+5.7 Oct	+4.3	6.6 Sep§‡‡	-5.0 Q3	-1.5	-2.2	4.47	601	520
Colombia	+4.3 Q2	-0.6	+5.0	+1.7 Sep	+3.3 Oct	+2.8	8.4 Sep§	-14.9 Q2	-4.1	-1.5	6.52	2,165	1,918
Mexico	+1.6 Q2	+4.2	+2.3	+3.0 Sep	+4.3 Oct	+3.9	4.8 Sep	-24.5 Q2	-1.7	-3.6	5.87	13.6	12.9
Venezuela	+1.0 Q4	+3.6	-2.5	+0.8 Sep	+63.4 Aug	+62.2	7.0 Sep§	+6.9 Q3	+1.0	-12.2	15.49	12.0	6.29
Egypt	+3.7 Q2	na	+2.2	+30.4 Sep	+11.9 Oct	+10.7	13.1 Q3§	-2.4 Q2	-2.4	-12.0	na	7.15	6.89
Israel	+2.5 Q3	-0.4	+2.0	+5.7 Aug	-0.3 Oct	+0.5	6.5 Sep	+8.5 Q2	+3.4	-3.3	2.16	3.83	3.52
Saudi Arabia	+4.0 2013	na	+4.1	na	+2.6 Oct	+2.9	5.6 2013	+139.2 Q2	+14.2	+2.4	na	3.75	3.75
South Africa	+1.0 Q2	+0.6	+1.6	+8.2 Sep	+5.9 Oct	+6.2	25.4 Q3§	-18.8 Q2	-5.2	-4.4	7.56	11.1	10.2

Source: Haver Analytics. *% change on previous quarter, annual rate. †*The Economist* poll or Economist Intelligence Unit estimate/forecast. §Not seasonally adjusted. ‡New series. **Year ending June. ††Latest 3 months. ‡‡3-month moving average. §§5-year yield. ***Official number not yet proven to be reliable; The State Street PriceStats Inflation Index, Sep 39.79%; year ago 18.81% †††Dollar-denominated bonds.

Markets

	Index Nov 19th	% change on one week	Dec 31st 2013 in local currency	Dec 31st 2013 in $ terms
United States (DJIA)	17,685.7	+0.4	+6.7	+6.7
China (SSEA)	2,566.4	-1.8	+15.9	+14.6
Japan (Nikkei 225)	17,288.8	+0.5	+6.1	-5.2
Britain (FTSE 100)	6,696.6	+1.3	-0.8	-6.2
Canada (S&P TSX)	14,980.2	+0.8	+10.0	+3.0
Euro area (FTSE Euro 100)	1,025.5	+2.3	+0.5	-8.5
Euro area (EURO STOXX 50)	3,123.1	+2.5	+0.5	-8.6
Austria (ATX)	2,232.8	+1.6	-12.3	-20.2
Belgium (Bel 20)	3,211.0	+2.3	+9.8	-0.1
France (CAC 40)	4,266.2	+2.1	-0.7	-9.6
Germany (DAX)*	9,472.8	+2.8	-0.8	-9.7
Greece (Athex Comp)	954.7	+9.4	-17.9	-25.3
Italy (FTSE/MIB)	19,379.9	+3.6	+2.2	-7.0
Netherlands (AEX)	417.8	+1.4	+4.0	-5.4
Spain (Madrid SE)	1,050.6	+2.1	+3.8	-5.5
Czech Republic (PX)	981.5	+1.7	-0.8	-10.8
Denmark (OMXCB)	676.8	+0.9	+19.6	+9.1
Hungary (BUX)	17,585.8	+0.8	-5.3	-16.1
Norway (OSEAX)	655.2	+1.4	+8.7	-2.9
Poland (WIG)	53,299.4	+0.5	+3.9	-6.7
Russia (RTS, $ terms)	1,021.2	-2.3	+0.9	-29.2
Sweden (OMXS30)	1,428.0	+1.4	+7.1	-6.9
Switzerland (SMI)	8,983.5	+1.3	+9.5	+1.6
Turkey (BIST)	81,461.6	+1.3	+20.1	+15.3
Australia (All Ord.)	5,352.5	-1.7	nil	-3.4
Hong Kong (Hang Seng)	23,373.3	-2.4	+0.3	+0.3
India (BSE)	28,032.9	+0.1	+32.4	+32.2
Indonesia (JSX)	5,127.9	+1.6	+20.0	+20.2
Malaysia (KLSE)	1,824.4	+0.4	-2.3	-4.7
Pakistan (KSE)	31,756.3	+0.4	+25.7	+30.1
Singapore (STI)	3,334.6	+1.5	+5.3	+1.8
South Korea (KOSPI)	1,966.9	nil	-2.2	-6.7
Taiwan (TWI)	8,963.2	+0.5	+4.1	+0.7
Thailand (SET)	1,577.6	+1.0	+21.5	+21.6
Argentina (MERV)	9,584.3	-4.8	+77.8	+36.1
Brazil (BVSP)	53,402.8	+0.8	+3.7	-5.3
Chile (IGPA)	19,340.4	+1.1	+6.1	-7.2
Colombia (IGBC)	12,829.5	-2.4	-1.8	-12.4
Mexico (IPC)	44,118.1	+0.9	+3.3	-0.7
Venezuela (IBC)	2,844.5	-0.5	+3.9	na
Egypt (Case 30)	9,220.2	-1.3	+35.9	+32.1
Israel (TA-100)	1,296.0	+0.7	+7.3	-2.8
Saudi Arabia (Tadawul)	9,383.8	-3.1	+9.9	+9.9
South Africa (JSE AS)	50,150.5	-0.4	+8.4	+2.6

Global business barometer

Executives around the world remain upbeat about the prospects for business but this optimism is on the wane, according to the latest *Economist/FT* survey of around 1,500 senior managers, conducted by the Economist Intelligence Unit. The balance of respondents who think that global business conditions will soon improve has fallen by 29 percentage points from the beginning of the year to 13. The executives foresee a divergence in monetary policy. Almost half of respondents expect the Federal Reserve to be the first central bank to raise interest rates while more than two-thirds expect the European Central Bank to begin quantitative easing in 2015.

Balance of respondents expecting global business conditions to improve in the next six months

Percentage points

Source: *The Economist/FT* survey

Interactive: Track global business confidence with our barometer at **Economist.com/bizbaro**

Other markets

	Index Nov 19th	% change on one week	Dec 31st 2013 in local currency	Dec 31st 2013 in $ terms
United States (S&P 500)	2,048.7	+0.5	+10.8	+10.8
United States (NAScomp)	4,675.7	nil	+12.0	+12.0
China (SSEB, $ terms)	263.6	+0.4	+5.1	+3.9
Japan (Topix)	1,396.5	+1.4	+7.2	-4.2
Europe (FTSEurofirst 300)	1,359.9	+1.2	+3.3	-6.0
World, dev'd (MSCI)	1,724.7	+0.6	+3.8	+3.8
Emerging markets (MSCI)	989.9	-0.6	-1.3	-1.3
World, all (MSCI)	421.9	+0.4	+3.3	+3.3
World bonds (Citigroup)	903.5	-0.3	-0.3	-0.3
EMBI+ (JPMorgan)	703.0	-0.1	+7.9	+7.9
Hedge funds (HFRX)	1,221.5§	nil	-0.3	-0.3
Volatility, US (VIX)	14.0	+13.0	+13.7	(levels)
CDSs, Eur (iTRAXX)†	64.5	+1.4	-9.4	-17.5
CDSs, N Am (CDX)†	66.7	+3.6	+3.1	+3.1
Carbon trading (EU ETS) €	7.0	+2.8	+39.8	+27.2

Sources: Markit; Thomson Reuters. *Total return index. †Credit-default-swap spreads, basis points. §Nov 18th.

Indicators for more countries and additional series, go to: **Economist.com/indicators**

The Economist commodity-price index

2005=100

	Nov 11th	Nov 18th*	% change on one month	% change on one year
Dollar Index				
All Items	158.1	156.4	+1.1	-3.4
Food	176.1	173.9	+1.8	-3.1
Industrials				
All	139.5	138.2	+0.2	-3.9
Nfa†	127.8	125.9	-2.5	-19.9
Metals	144.5	143.4	+1.2	+3.9
Sterling Index				
All items	181.2	181.8	+4.2	-0.6
Euro Index				
All items	158.2	155.2	+2.7	+4.2
Gold				
$ per oz	1,156.0	1,196.1	-4.5	-6.2
West Texas Intermediate				
$ per barrel	77.8	74.4	-10.7	-20.3

Sources: Bloomberg; CME Group; Cotlook; Darmenn & Curl; FT; ICCO; ICO; ISO; Live Rice Index; LME; NZ Wool Services; Thompson Lloyd & Ewart; Thomson Reuters; Urner Barry; WSJ. *Provisional †Non-food agriculturals.

The joy of glass

Donald Stookey, glass chemist, died on November 4th, aged 99

ALTHOUGH the man in the street may not know it, modern life is full of the inventions of Donald Stookey. His ingenuity lies behind the screens of tablets and mobile phones; behind glasses that fade to black as the sun comes out; behind the nose-cones of guided missiles, and cookware so sturdy that you can broil it in the oven, plunge it in the fridge and drop it on a stone floor, with damage to nothing but the soufflé that was in it.

Interesting, then, that Dr Stookey saw himself less as a scientist than an alchemist. This was because his field was glass, a material so unique and strange—not solid, liquid or gas, but a liquid frozen in an unstable state—that in 3,500 years of history it had kept its secrets intact. His liveliest mental companion, as he worked away for almost five decades among the smokestacks of the Corning Glass Works in upstate New York, was Johann Kunckel, first finder in the 17th century of a formula for gold ruby glass, who believed that cups made of this could transmit to drinkers the virtues of the philosopher's stone.

He also saw himself as an explorer, the sort he had loved to read about in childhood, opening doors into unseen worlds; or, being an avid hunter and fisherman, as a tracker of elusive prey. Hence his original venture into glass, as he left MIT in 1940 with a doctorate but with job offers only from Corning and Nabisco, a bakery company. He did not want to bake, so chose to do research into milky white opal glass. He knew nothing of either the substance or the chemistry, but found it mysterious and beautiful and hoped it might be useful.

The job was still almost artisan, with his glass samples heated in one-pound batches in clay crucibles by a gruff old glass-blower. But he succeeded after some years in making opal glass photosensitive, so that three-dimensional designs could be etched into it by the action of light. Taking clues from nature, he made this "Fotoform" glass resemble frost-lace, spiders' webs and a honeycomb, in which honeybees actually produced honey. He also perfected a glass which, in daylight, looked like marble, and now covers the north face of the UN headquarters in New York.

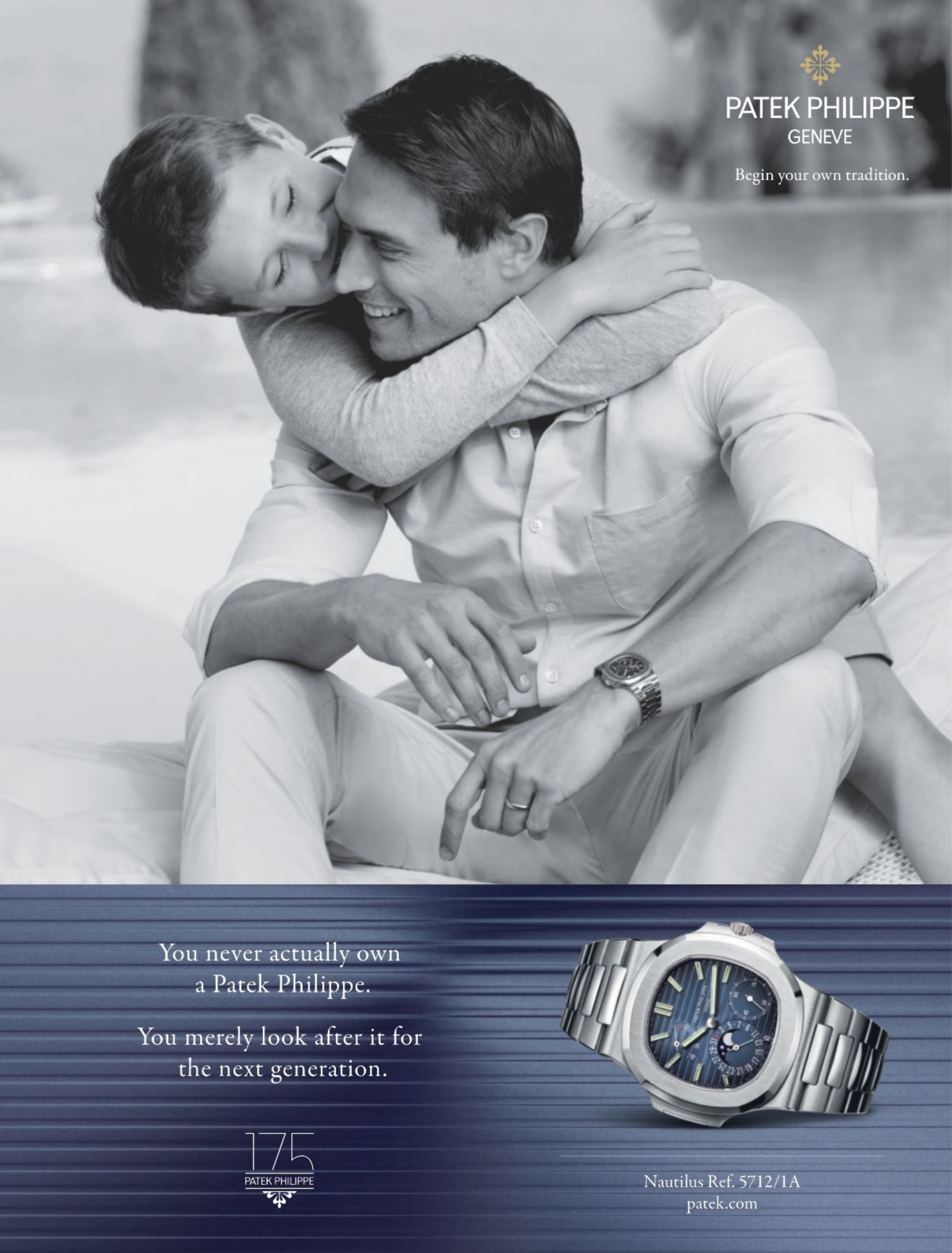
A nucleus of gold

The joy of glass, he soon discovered, lay not only in its resilience and transparency but in its very instability, and its yearning to reach a lower-energy crystalline state. Every one of his inventions depended on a process called "nucleation", in which the smallest stable trace of any element, added to molten glass, became a nucleus round which crystals would grow until, by cooling, he chose to stop them. Tiny light-scattering particles of sodium fluoride made opal glass; mites of copper or gold made the ruby glass he so admired. These too he rendered photosensitive, so that after exposure to ultraviolet light photographs could appear within them. One of his first attempts was a paperweight containing a photograph of his wife Ruth in her wedding gown; and in wartime the Treasury Department almost took up his idea of making pennies not of scarce copper but of copper ruby glass, with Lincoln's portrait magically suspended in them.

That notion proved too costly, however. (So did the pleasing idea of making mirrors and spectacles for spies which, when exposed to light, would reveal secret messages.) Indeed some folk at Corning thought Dr Stookey was just playing around, making things that were decorative rather than commercial. His natural shyness, reinforced by partial blindness, did not help; but with every prod something extraordinary appeared. He made glass with thousands of holes per square inch, to guide electron beams for colour television sets, by dissolving a crystallised photograph of a vast array of dots from Fotoform glass with hydrofluoric acid. He made glass that was rubbery and easier to saw. He imagined a future in which glass, with its raw material so abundant everywhere, could replace not only petrochemical plastics but also metal and wood.

One invention, too, earned money in style. This was glass-ceramic, patented in 1960 as Fotoceram and marketed as indestructible Corningware dishes, so popular in America that by the 1980s six pieces of it (originally white, with blue cornflowers) could have graced every household. Dr Stookey invented this by accident when, having left a piece of Fotoform glass in too hot a furnace, he found it had turned milky and bounced off the floor when, cursing, he tried to yank it out. This glass had so intensely crystallised on reheating that it dropped with a clang like steel.

He made some money from that: enough to indulge his passion for motor cruisers and to have a fair number of extra-laboratory adventures, including a seaplane wreck in a freezing Canadian lake. Much of his spare time was spent on or by water, itself glass-like, and in search of the secretive elements—this time panfish, trout and marlin—lurking within. His whole career, though, thanks to the support of Corning, had been conducted at a similarly leisurely pace: a journey by patient micro-steps to the "Centre of the Crystal Ball", as he called his autobiography, punctuated by moments of delight and surprise at what glass could become, given half a chance. And so it must have been, he reflected, for those other alchemists, bent over their alembics long ago. ■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